

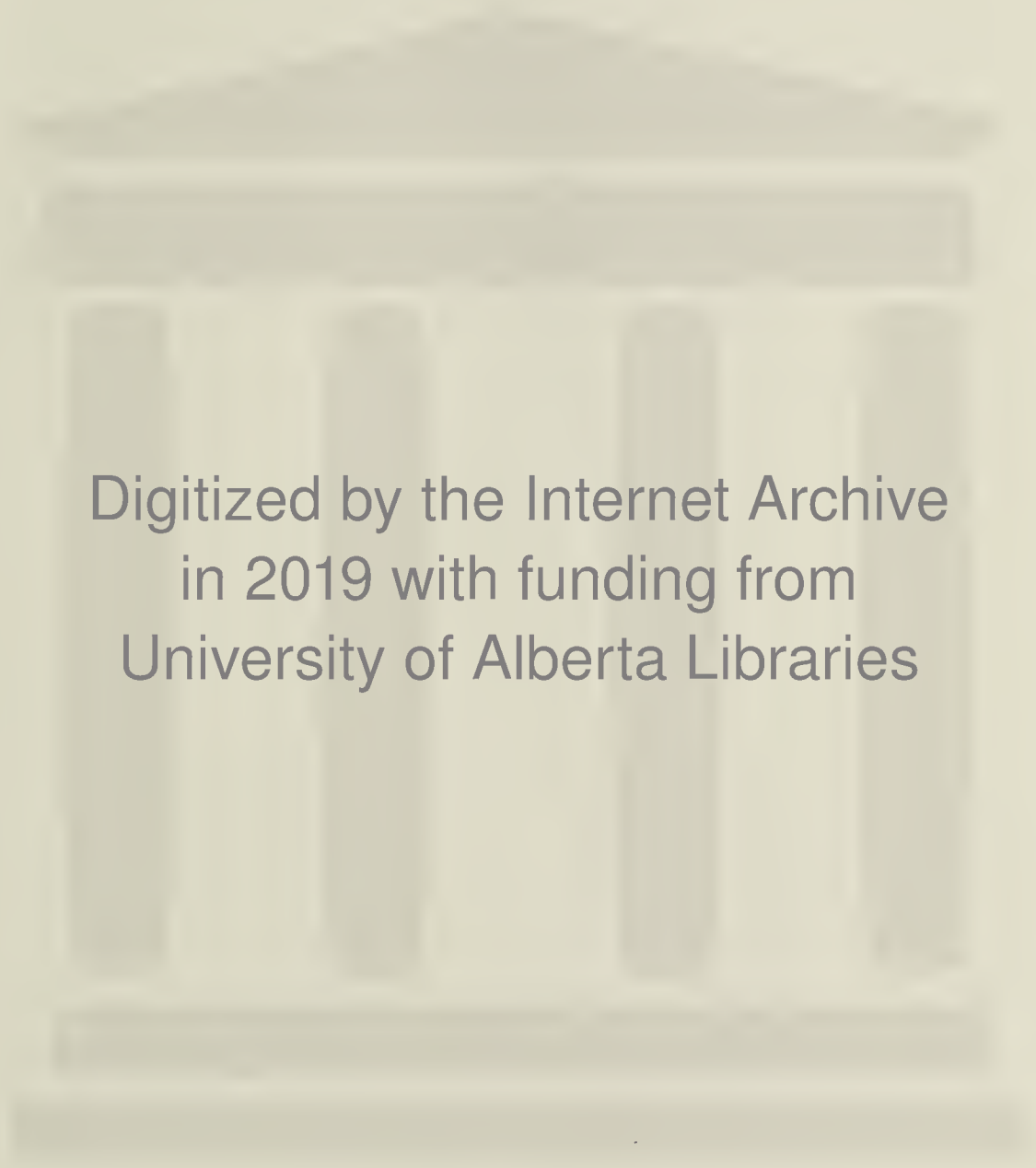
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BLUE JAY

Volume 61 Number 1

March 2003



Blue Jay, founded in 1942 by Isabel M. Priestly, is a journal of natural history and conservation for Saskatchewan and adjacent regions. It is published quarterly by **Nature Saskatchewan, 206-1860 Lorne Street, Regina, Saskatchewan S4P 2L7.**

CN ISSN 0006-5099

Editors: Anna and Ted Leighton, 328 Saskatchewan Crescent West, Saskatoon, SK S7M 0A4, Canada. E-mail : leighton@sasktel.net

Associate Editors : Mark Brigham, Rainer Ebel, Marlene Evans, Ronald Hooper, Stuart Houston, Joanne Marchand, Josef Schmutz, Robert Warnock.

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COVERS: Front - Female Cooper's Hawk (in immature plumage) that raised four young in Weyburn in 2002. Photograph by Kelly Kozij

Back - Prairie Warbler photographed in Saskatoon on 19 October 2002.
Photograph by Robert Wapple

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Blue Jay

Vol. 61 No. 1

March 2003

1-66

Nature

FIELD SKETCHES: FIRST BLUEBIRDS. *Paul Geraghty* 34

Birds

61st ANNUAL SASKATCHEWAN CHRISTMAS BIRD COUNT 2002. 2

Alan R. Smith and Robert E. Johanson 2

ADDITIONAL NOTES ON MANITOBA'S LONG-LIVED GREAT HORNED OWL
(BAND NUMBER 568-17752). 27

Spencer G. Sealy, James C. Duncan and Robert W. Nero 27

THE SECOND ROSS'S GULL OF MY LIFE WAS A FIRST FOR
SASKATCHEWAN. *James K. Finley* 30

URBAN-NESTING MERLINS AND COOPER'S HAWKS IN WEYBURN, SK.
Kelly Kozij 33

PRAIRIE WARBLER IN SASKATOON – THE SECOND RECORD FOR
SASKATCHEWAN. *Robert Wapple* 39

LOGGERHEAD SHRIKE BANDING ON THE PRAIRIES.
C. Stuart Houston, Ken D. De Smet and Douglas M. Collister 40

Plants

LICHEN INVENTORY OF THE CROOKED LAKE FEN NATURE SANCTUARY.
Bernard de Vries 43

Insects

GRASSHOPPERS IN COYOTE SCATS.
Thijs Kuiken, Anna Leighton and Dan Johnson 51

Notes and Letters

A PLUM OF A NEST SITE FOR WAXWINGS. *Audrey McKibbin* 56

THREE WAVES OF JUNCOS IN SPRING 2002. *Mary I. Houston* 57

SNOWY OWL AND JACK RABBITS GALORE. *Dan Zazelenchuk* 57

Poetry

ENCOUNTER. *Victor C. Friesen* 60

LATE WINTER. *Victor C. Friesen* 64

Nature Library

BIRDS OF THE SASKATOON AREA. *Anna L. Leighton, Jim Hay,*
C. Stuart Houston, J. Frank Roy and Stan Shadick. 59

In Memoriam

WAYNE C. HARRIS, 1951-2002. *C. Stuart Houston* 61

JIM ARMSTRONG WEDGWOOD, 1920-2003. *J. Frank Roy* 63

Mystery Photo 65

Corrigendum 66

Advertisement LAND OF THE LOON RESORT 66

61ST ANNUAL SASKATCHEWAN CHRISTMAS BIRD COUNT-2002

ALAN R. SMITH, 115 Perimeter Road, Saskatoon, SK S7N 0X4, and
ROBERT E. JOHANSON, 406 125 5th Avenue N, Saskatoon, SK S7K 6A5

It is with great regret that we have assumed the role of coordinating the Saskatchewan Christmas Bird Count (CBC). It is not the task itself, but the circumstances under which we came to assume this new role which give rise to our regret. As most of you now know a change in compilers was necessitated by the tragic death of long-term compiler Wayne Harris last October.

As count compiler, Wayne oversaw the growth of the Saskatchewan CBC from some 84 counts with 545 observers in 1988 to 105 counts with 912 observers in 2002. As an active participant, Wayne was involved in 294 counts in 36 localities. This is an outstanding feat when one considers that only 3,046 counts have been conducted in the entire history of the CBC in Saskatchewan!

The 2002 Christmas Bird Count

The late fall and early winter preceding the count period were mild and dry with only a short cold spell in early December. The lack of snow persisted in most southern areas until New Year's Day. In many areas the new year was heralded by freezing rain followed by more normal temperatures and precipitation throughout January.

This year only 93 counts were conducted. This is the lowest since 1996 when 92 were conducted. On the other hand, the number of participants was high (835), exceeded only in 1997 and 2001. Of special note was the absence of a count from Moose Jaw,

the first time a count had not been conducted there since 1957.

The distribution of counts is indicated in Figure 1. Each dot on the map is scaled to the exact size of a 24 km (15 mile) diameter circle. This gives the reader an idea of the coverage by the CBC in the province. As each CBC circle covers 453 square kilometres, the 93 counts covered over 42,000 square kilometres of the province or over 6 percent of the area of the province!

The birds

This year 95 species were recorded on count day with an additional seven species recorded during the count period. This is lower than the 108 plus five additional species recorded in 2001, but near the average for the last ten years. The total number of birds recorded was, however, a record. Almost 173,000 birds were recorded just edging out last year's total of 171,000.

Saskatoon led all counts with 46 species on count day. Regina followed with 42 species. Only five other counts (Indian Head, Pike Lake, Fort Walsh, Gardiner Dam and Craven) had 30 or more species. Last year 14 counts registered 30 or more species.

The lack of snow cover permitted greater access to waste grain encouraging 33,667 Canada Geese and 43,844 Mallards to remain in Saskatchewan for the bird count. These two species were the most abundant species on the count and comprised almost 45 percent of all birds recorded.

Three passerines, the House Sparrow (23,837 birds), Snow Bunting (16,942) and Bohemian Waxwing (12,963) made up another 30 percent of all birds recorded. The other 90 count species comprised the remaining 25 percent of all birds recorded. The diversity of Saskatchewan's winter avifauna continues to increase, but is still dominated by rather few species.

As is normal, the species most frequently recorded on count day was the Black-billed Magpie (on 96% of counts), followed by Black-capped Chickadee (94%) and House Sparrow (82%). The top five were rounded out by our two common woodpeckers: the Downy (on 90% of counts) and Hairy (89%).

Population trends

Population trends are based on comparison with results from 2001 and the five year period from 1997-2001 (Table 7). As mentioned previously Canada Goose and Mallard numbers are up over the previous five years. Other waterfowl numbers were, however, stable or down over the same period.

Hawk numbers were generally stable or in decline. It was a mixed result for gallinaceous birds with native Ruffed and Sharp-tailed Grouse down and the exotic Gray Partridge and Ring-necked Pheasant up. As an indication of their pending extirpation from the province, the Greater Sage-Grouse went unrecorded for the first time since 1978.

Great Horned and Snowy owls were found in about the same numbers, but boreal forest owls were noticeable by their absence. All woodpeckers were up 20 percent or more over last year as well as the last five years. This is difficult to explain, as woodpeckers are generally regarded as sedentary species whose numbers are not influenced by weather or snow cover. Five Pileated Woodpeckers on the Leader North count suggests a good-sized population along the South Saskatchewan River.

Results for songbirds were mixed. Horned Larks, Golden-crowned Kinglets, American Robins, European Starlings, and both redpolls were on the decline while both waxwings, American Tree Sparrows, Dark-eyed Juncos and Lapland Longspurs showed increases.

Two recent additions to our list of overwintering finches continue to increase. 1055 House Finches were recorded on 15 counts compared to 876 on 15 in 2001. Eighty-one American Goldfinches were on 10 counts compared to 19 on four last year. The goldfinch seems well on its way to becoming our newest regularly wintering bird.

Rarities

No new species were added this year so the total number of species recorded on the CBC remains at 177. A Gray Catbird at Yorkton was close as it was the second of its kind to be recorded on the CBC. Interestingly, the first was last year on the Moose Jaw CBC.

A Long-tailed Duck at Gardiner Dam was only our third record. A Great Blue Heron at Fort Qu'Appelle and a Yellow-bellied Sapsucker at Broadview were the fifth of their kind, while single Belted Kingfishers at Saskatoon and Fort Qu'Appelle were our fifth and sixth records.

A slowly-expanding species, the Eurasian Collared-Dove, was recorded from two new localities: Eastend and Swift Current. Other rarities included a Mountain Bluebird at Saskatoon and a Northern Cardinal during the count period at Prince Albert.

Count areas and participants

(Names of compilers are in italics).

1. ARCHERWILL. Joe Cooper, Doris Dewhurst, Ken Folstad, Pauline Hnetka, J. Howden, *Elaine Hughes*, Janice Martin, Judy Revoy, Doris Slind.

2. ARMIT. Val Harris, *Sheila Lamont*, Bill Zak, Joyce Zak.
3. BANGOR. Allan Bolton, Lynn Bolton.
4. BEAUVAL. Clara Sanderson, *Rick Sanderson*.
5. BETHUNE-DILKE. *Doug Laing*, Vera Laing
6. BIGGAR. Dale Booth, Linda Schnedar, Brandon Wapple, *Guy Wapple*, Rob Wapple, Sandra Wapple.
7. BIRCH HILLS. Carman Dodge, Margaret Mareschal, *Moe Mareschal*, Don Weidl.
8. BRIGHTWATER RESERVOIR. Ed Driver, Keith Hobson, *Alan Smith*.
9. BROADVIEW. *David Chaskavich*, Barbara Weidl, Don Weidl, Tony Weidl.
10. BROMHEAD. Martin Bailey, *Carol Bjorklund*, John Whitell.
11. CABRI. *Carman Dodge*.
12. CANDLE LAKE. Carman Dodge, *Don Weidl*, Marg Mareschal, Moe Mareschal.
13. CLARK'S CROSSING. Tony Allen, Eveline Boudreau, Dave Cook, Louise Cook, George Dirks, Lorne Duczek, Ryan Fisher, Jennifer Froese, Kenneth Froese, George Goetz, Marilyn Haskins, Harvey Jantzen, Robert Johanson, Richard Kerbes, Kay Krueger, Gerard Lahey, Audrey MacKenzie, Bill MacKenzie, Hilda Noton, Stan Shadick, Wayne Shields, Marten Stoffel, Jan Tedesco, Mercedes Wayman, Karen Wiebe, *Michael Williams*, Kay Willson, Phil Willson, Jim Wood.
14. CORONACH. Jeff Jensen, Ron Jensen, *Sue McAdam*.
15. CRAVEN. Keith Barr, Betty Binnie, Karen Elliott, Ruth Englund, Kate Herriot, *Trevor Herriot*, Dale Hjertaas, Phil Holloway, Gary Howland, Bob Luterbach, Yvonne MacKenzie, Kevin Moore, Ron Myers, Curtis Pollock.
16. CROOKED LAKE. Pat Connolley, Bill Livesay, Mayta Livesay, *Boyd Metzler*, John Pollock.
17. CRYSTAL LAKE. *Bill Vaughan*, Kay Vaughan.
18. CYPRESS HILLS PROVINCIAL PARK (Centre Block). John Douglas, Amy Krause, Daniel Krause, Rick Krause, Vicky Krause, Dave Lillie, Helen Lillie, *Melody Nagel-Hisey*, Alma Smith.
19. DUCK LAKE. Keith Hobson, Karen Jantzen, *Alan Smith*, Phil Taylor, Rosella Unruh, Steven VanWilgenburg.
20. DUNDURN: *Alan Smith*, Don Weidl.
21. EASTEND. Denise Gebhardt, *Robert Gebhardt*, June Higgins, George Huhn.
22. EMMA LAKE. Glen Hanson, Jean Hanson, *Deanna Krug*, Norman Krug.
23. ENDEAVOUR. *Norman Harris*.
24. ESTEVAN. Val Harris, *Sheila Lamont*, Guy Wapple.
25. ESTUARY NORTH. Cathy Cocks, *Dean Francis*, Frances Hartsook, Walter Steinley.
26. FENTON. *Carman Dodge*, Moe Mareschal, Don Weidl.
27. FORT QU' APPELLE. James Armstrong, Phyllis Bordass, Bob Cardiff, Anne Davies, Joanne Davies, *Ronald Hooper*, Alice Isfan, Lois Lamontagne, Vic Lamontagne, Jack Lowe, Jean McKenna, Alan Mlazgar, Webb Palmer, Paul Paquin, Doreen Rowell, Lome Rowell, Fred Warren.

28. FORT WALSH. Val Harris, Ron Jensen, Sheila Lamont, Harvey Lane, Susan McAdam, Wilkes Parsonage, *Guy Wapple*, Rob Wapple.

29. GARDINER DAM. Greg Fenty, Val Harris, Mary Houston, Stuart Houston, Ron Jensen, Sig Jordheim, Burke Korol, Sheila Lamont, Cam Lockerbie, Marten Stoffel, Brent Terry, *Guy Wapple*, Dan Zazelenchuk.

30. GOOD SPIRIT LAKE. *Bill Anaka*, Joyce Anaka, Dorothy Riesz, Ray Riesz, Lloyd Wilson, Marge Wilson, Julia Wiwchar.

31. GOVENLOCK. Val Harris, Ron Jensen, Burke Korol, *Sheila Lamont*, Harv Lane, Susan McAdam, *Guy Wapple*, Rob Wapple.

32. GRASSLANDS NATIONAL PARK. Richard Cherepak, Ian Fargey, Pat Fargey, Coleen Schmidt, Colin Schmidt, *Robert Scissons*.

33. GRAYSON. *John Hicke*.

34. HARRIS. Burke Korol, Brandon Wapple, *Guy Wapple*. Rob Wapple.

35. HEPBURN. Karl Mehler, Margaret Mehler, Morley Mehler, *Phyllis Siemens*.

36. HOLBIEN. *Helen Harris*.

37. INDIAN HEAD. Carol Beaulieu, Denise Beaulieu, Graeme Beaulieu, Lauren Beaulieu, Mark Beaulieu, Victor Beaulieu, Jan Beattie, Irv Escott, Angela Gehl, *David Gehl*, Edith Gehl, Roberta Gehl, Sharon Hearn, Roy Hearn, Cheryl Kucharan, Nick Kucharan, Lansley Gibbans, Gordon Howe, Glen Lasky, R. Lewthwaite, Carl Lindquist, Margaret Lindquist, Dan Loran, Dora Nichols, Pat Nichols, Kathy Robb, Ron Robb, Joseph Schreiner, Sandra Schreiner, Lorne Scott, Chris Skinner, Fred Skinner, Linda Skinner, Rodney Soron, John Stanger, Donna Thompson, Ronald Thompson,

Shirley Walker, Spence Walker, Anne Willerth, Gord Willerth, Robert Young.

38. KAMSACK. George Bernhard, Hazel Bernhard, Agnes Betz, Olga Bobyk, Marlon Brock, Fred Chernoff, Norman Chernoff, Jeff Conley, Mollie Conley, Nell Conley, Lindee Dewores, Margaret Falkiner, Pat Fisher, Bev Helmeyk, Bill Helmeyk, Anita Klocko, Bill Koroluk, Laura Lippkey, Les Poole, Molly Poole, *Isabel Ritchie*, Wally Sasyniuk, Dave Severson, Elsie Severson, Don Smandych, Joan Smandych, Selma Smandych, Elenor Sookocheef, Joyce Uhlow, Pete Uhlou, Ilona Zeiben.

39. KELVINGTON. *Dianne Sloan*, Marguerite Sloan.

40. KENASTON. Brianne Beckie, Brett Beckie, *Lawrence Beckie*, Marg Beckie.

41. KENOSEE LAKE. Boyd Metzler, *John Pollock*.

42. KILWINNING. *Ed Driver*, Dennis Prosser, Alan Smith.

43. KINDERSLEY NORTH. *Jean Harris*, Keith Harris.

44. KINISTINO (HORSESHOE BEND). Dannelle Messer, *Verna Messer*.

45. KINLOCH. Elaine Asbjornhus, *Don Forbes*, Doreen Forbes, Cliff Logan, Doreen Wickstrom.

46. KUTAWAGAN LAKE. Val Harris, *Sheila Lamont*.

47. LA RONGE (North). *Dianne Allen*, Jim Mills, Carmen Orthner, Joy Needham, Kent Pointon, Alice Robert, John Schisler, Jan Shewchuk, Fred (surname unknown).

48. LA RONGE (South). *Sid Robinson*, John Schisler, Jan Shewchuk, Marlene Stacey, Karen Waters.

49. LAST MOUNTAIN LAKE N.W.A. Val Harris, *Sheila Lamont*.

50. LEADER NORTH. Paul Letkeman, Vivian Letkeman, *Daisy Meyers*, George Meyers.

51. LOVE - TORCH RIVER. *Bert Dalziel*, Duke Dalziel, Joan Dalziel, Kari Dalziel, Sara Dalziel, Betty Donovan, Bruce Donovan, Scott Edwards, Rosanne Kirkpatrick, Eileen L'Heureux, Paul L'Heureux, Mildred Long, Bill Matthews, Lynn Matthews, Lillian Nessel, John Sinclair.

52. LUSELAND. Joe Brice, Bev Einarson, Don Einarson, Estelle Finley, Graeme Finley, *Kim Finley*, Liam Finley, Robert Finley, Val Finley, Bill Frey, Brent Honeker, Shirley Honeker, Glen Martfeld, Melba Martfeld.

53. MACDOWALL. *Myron Barton*, Laurie Fehr, Sylvia Neudorf, Bob Tynstall, Allan Young.

54. MATADOR. Cindy Romo, *Jim Romo*.

55. MAYVIEW. *Judith Graham*, Kelly Rolston.

56. MEADOW LAKE. Bill Caldwell, Byron Golly, Stuart Golly, Lorraine Twidale, Joe Twidale, *Bob Wilson*, Ian Wilson.

57. MISSINIEPE. *Shirley Glass*.

58. MOOSE MOUNTAIN. *Greg Bobbitt*, Bob Cameron, Ross Douglas, Dick Gutfriend, Stewart Stairmand, Doyle Thomas, Val Thomas.

59. NIPAWIN. Inge Brown, Vi Budd, *Joyce Christiansen*, Joanne Gruchy, Doug Pegg, Ruth Thresher.

60. NISBET FOREST WEST. *Kim Clark*, Kiri Clark, Shamara Clark, Suzanne Clark, Evelyn Marshall.

61. PADDOCKWOOD SOUTH. Blake Jones, Stella Jones, *Clifford Matthews*, Alice Silversides.

62. PIKE LAKE. Tony Allen, Lawrence Beckie, Carol Blenkin, John Bond, Dave Cook, Jill Cornford, Peter Cornford, Lorne Duczek, Joan Flood, Cathy Fry, Joe Fry, Bob Girvan, Mike Gollop, Mary Gullacher, Robert Johanson, Marlene Kalanack, Gerard Lahey, Carol Maccan, Audrey MacKenzie, Bill MacKenzie, Margaret Massey, Bob McNaughton, Ross Nicholson, Menno Nickel, Rajesh Nighot, Hilda Noton, Keith Pahl, Prentice Neil, *Frank Roy*, Stan Shadick, Angela Stern, Marten Stoffel, Jan Tedesco, Kirk Wallace, Michael Williams, Bev Wills, Jim Wood.

63. PORCUPINE PLAIN. *Keith Larwood*, Pat Larwood, Phyllis Swaan.

64. PREECEVILLE. Norman Johnson, *Muriel Mitchell*, Mae Tunbridge.

65. PRINCE ALBERT. Pamela Burt, Kim Clark, Kiri Clark, Shamara Clark, Peter Dick, Tim Dick, *Carman Dodge*, Keith Dodge, Joel Ecdahl, Millie Fillmore, Kelly Foisey, Sandra Jewell, Alicia Korpach, Raeanne Krug, Murray Little, Eric Mayer, Michael Newman, Sheryl Newman, Shyla Perreault, Fred Routley, Deborah Rye, John Rye, Michael Rye, Dan Siedlitz, Spruce Home Scouts, Marlene Van Burgsteden, Don Weidl, Travis Wilkinson, Kari Willer.

66. PRINCE ALBERT NATIONAL PARK. Susan Carr, Maria Case, Vic Case, Doreen Collingwood, Lorie Collingwood, Jim Durnin, Kevin Ferrie, *Dan Frandsen*, Judy Frandsen, Henry Fremont, Doug Gullickson, Burnadette Horne, Tracy Hutton, Brad Lloyd, Frances Lloyd, Stuart Macmillan, Adam Moreland, Fiona Moreland, Brad Muir, Melissa Nelson, Adam Pidwerbeski, Lawrence Pidwerbeski, Samuel Pidwerbeski, Angela Salzl, Jeff Weir, Dave Wieder, Richard Zaidan, Cam Zimmer, Karne Zwartjes.

67. QU' APPELLE VALLEY DAM. Robert Johanson, Cameron Lockerbie, Frank Roy, Stan Shadick, Jan Tedesco, *Michael Williams*, Jim Wood.

68. RAYMORE. Val Harris, *Sheila Lamont*.

69. REGINA. Sandy Ayer, Keith Barr, Inez Benesh, Lionel Bonneville, Stephane Bonneville, Jared Clarke, Jim Elliot, Shirley Friel, Shirley Gerlock, Jon Herriot, Kate Herriot, Norman Herriot, Trevor Herriot, *Dale Hjertaas*, Paule Hjertaas, Phyllis Ilsley, Bill Jones, Rheal Laroche, Bob Luterbach, Joanne McLennan, Jim Nordquist, Marion Peddle, Ron Peddle, Wayne Pepper, Diether Peschken, M.H. Prescott, Brian Rainey, Dorothy Rhead, Frank Switzer, Milow Worel.

70. ROULEAU. Allen McGratten, Noreen McGratten, *Pat Sterzuk*.

71. ROUND LAKE (Qu'Appelle Valley). Kelly Bear, Pat Connolley, *Doug Francis*, Boyd Metzler, Erv Miller.

72. SASKATCHEWAN LANDING PROVINCIAL PARK. Willy Fortman, Carolynne Gould, Leonard Head, Ron Jensen, Sig Jordheim, Val Harris, Sheila Lamont, Darcy Lockman, *Cameron Lockerbie*, Mike Redman.

73. SASKATCHEWAN RIVER FORKS. Carman Dodge, *Don Weidl*.

74. SASKATOON. Don Adams, Darlene Aikman, Nancy Allan, Tony Allen, Juhachi Asai, Kengo Asai, Sumiko Asai, Alison Baudru, Louis Baudru, Bob Besant, Joyce Besant, Jim Beveridge, Mark Bidwell, Doris Bietenholz, Peter Bietenholz, Samuel Bietenholz, Eveline Boudreau, Annemarie Buchmann, Gail Bunt, Attila Chanady, Mike Chorney, Ruby Christensen, William Christensen, Ewen Coxworth, Lorne Duczek, Lillian Dyck, Ann Dzus, Denis Edmonds, Randi Edmonds, Melanie Elliott, Kathy Exner, Joe Fry, Vera Giesbrecht,

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75. SHAMROCK. Donna Heinrichs, Gladys Heinrichs, Jaime Heinrichs, Sharon Heinrichs, *Hugh Henry*.

76. SKULL CREEK. *Ray Bennetto*, Sharon Bennetto, Cindy Harvey, George Harvey, Joann Peterson, Larry Peterson.

77. SNOWDEN. Eleanor Bodnaruk, Yvonne Englehart, Diane Friesen, *Irene Hagel*, Ernie Hall, Lily Kuzniar, Bob Olsen, Jeanette Olsen, Jack Pickett, Barry Preistley, Karen Preistley, Vera Schemenauer, Orville Shwetz, Vicky Shwetz, Bev Smears, Walter Stevenson, Irene White, Les White, Marleen White.

78. SOMME. Edwin Billeter, Sharon Birch, Irene Brehmer, Florence Chase, Arthur Harris, Barbara Hooper, *Ronald Hooper*, Gordon Johnson, Elsie Kerr, Jim Martin.

79. SPALDING. Dora Knutson, Virginia Perron, *Velma Spizawka*, William Spizawka.

80. SPINNEY HILL. *Ed Driver*, Alan Smith

81. SQUAW RAPIDS. Val Harris, *Sheila Lamont*, Marten Stoffel, Brent Terry, Guy Wapple, Dan Zazelenchuk.

82. STOCKHOLM. Douglas Flatt, *Gordon Smith*.

83. SWIFT CURRENT. Trisha Ayrey, James Beattie, Jackie Bolton, Norris Currie, Laurent Dudragne, Mary Ann Dudragne, Ryan Dudragne, Carolynne Gould, Gerald Handley, Hugh Henry, Jeff Jensen, Julie Jensen, *Ron Jensen*, Verna Knipfel, Dorine Kreuger, Walter Kreuger, Arlyne Lawson, Doug Lawson, Cameron Lockerbie, Elsie Miller, Ed Nein, Sue McAdam, Beth Parchman, Carl Parchman, Ted Philipchuk, Gerald Poe, Jeff Poe, Jared Stephenson, John Stephenson, Irene Stinson, Kae Waters, John Weston, Verdella Zacharias.

84. TISDALE. Carl Mohr, *Joyce Mohr*.

85. TOGO. Donna Dewores, Barb Elsasser, *Doug Elsasser*, Helen Tomochko, Claudia Zengl.

86. TURTLEFORD. Stewart Banks, Hank DeGraff, Marlene DeGraff, *Brent Keen*, Dorothy Textor, Marg Uhlig, Hannah Warrington, John Warrington, Rosalie Warrington, David Woof.

87. TURTLE LAKE. Marie Robinson, *Merle Robinson*.

88. WASECA: *Christine Pike*.

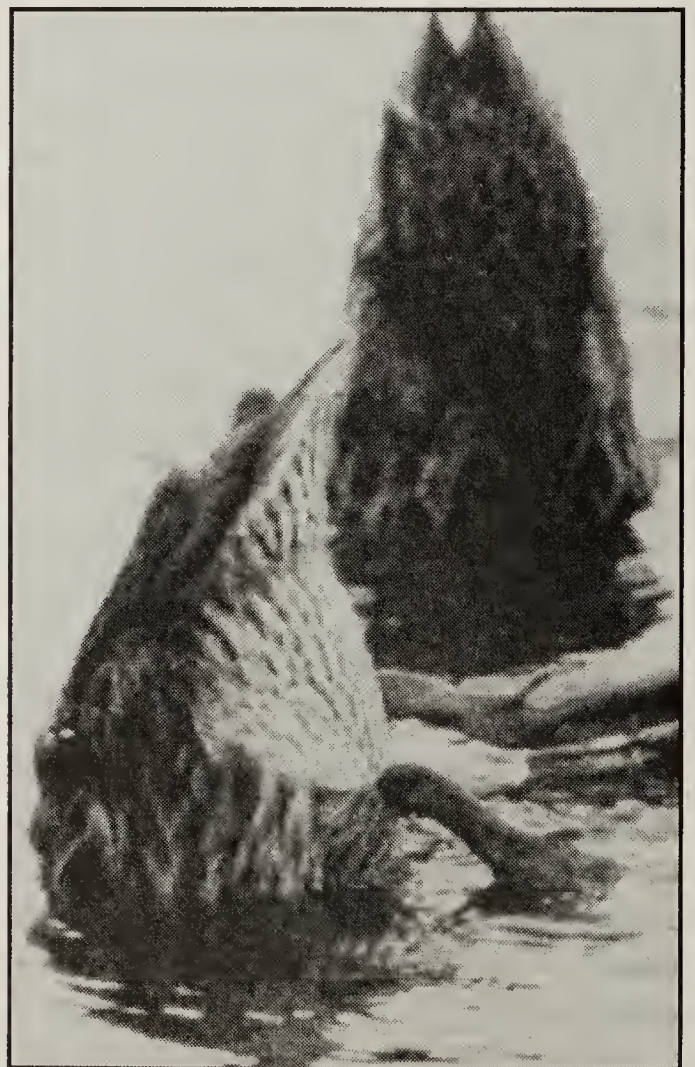
89. WATSON. Emil Chomakewich, *Irene Sampson*, Doreen Weber, Frank Weber.

90. WEYBURN. Dustin Braun, Cecile Burr, Bob Cameron, Lucille Cameron, Ross Douglas, *Dick Gutfriend*, Alma McCormick, Stewart Stairmand, Sid Trepoff.

91. WHITE BEAR. Darryl Jordheim, *Sig Jordheim*, Aislin MacColloch, Elijah MacCulloch, Greg MacCulloch, Keely MacCulloch, Lynette MacCulloch.

92. WHITEWOOD. Cliff Ashfield, Tom Ede, Wilfred Jordens, Bernice Juzyniec, Felix Juzyniec, Mavis Kay, Ron Kittler, Doreen McPhail, Jean Meadows, Frank Meszaros, *Boyd Metzler*, Donna Mohr, Brenda Pollock, John Pollock, Katrina Pollock, Florence Pritchard, Lenore Santo, Carol Sawatzke, Diane Veresh, Jean Wilson.

93. YORKTON. Bill Anaka, Joyce Anaka, Cliff Dixon, Lorraine Dixon, Mauve Fairclough, Norm Fraser, Elinor Hjertaas, Harley Large, Bonnie Rushowick, Geoff Rushowick, James Rushowick, Dorothy Skene, Lloyd Wilson, Marjorie Wilson.



Mallards feeding 'bottoms-up'

Figure 1. Location of 2002 counts (numbers correspond to those in text under **Count areas and participants**).

Natural Vegetation Zones*

- A. Subarctic Woodland
- B. Northern Boreal Forest
- C. Southern Boreal Forest
- D. Aspen Parkland
- E. Mixed Prairie
- F. Dry Mixed Prairie
- G. Cypress Hills

*adapted from Thorpe, J. *Natural Vegetation in Fung, K. (ed) Atlas of Saskatchewan*, Univ. of Sask. Saskatoon

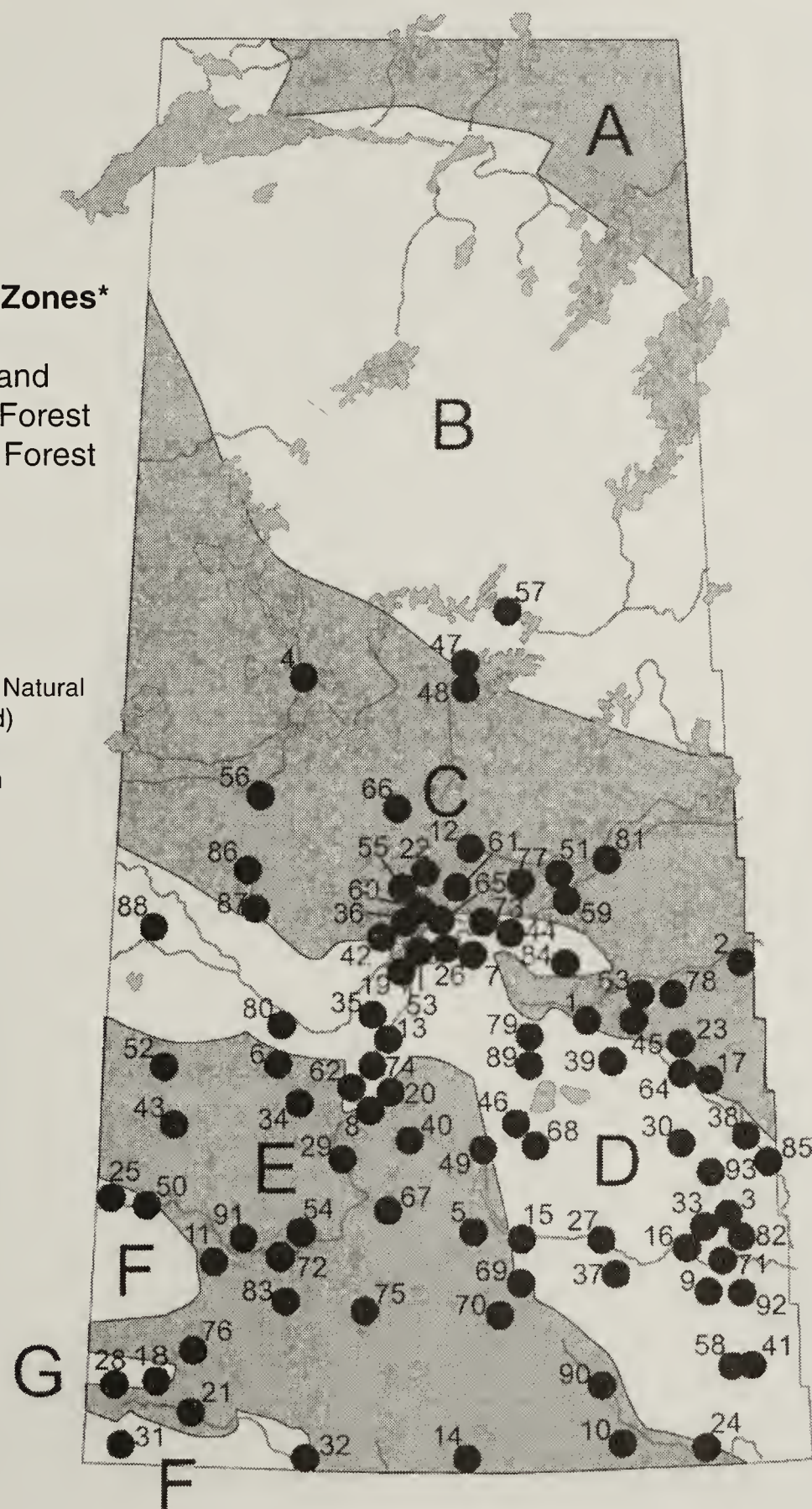


Table 1 Weather and Conditions

Locality	Date	Minimum Temp. (°C)	Maximum Temp. (°C)	Minimum Wind (km/hr)	Maximum Wind (km/hr)	Minimum Snow (cm)	Maximum Snow (cm)	Sky A.M.	Sky P.M.
Archerwill	Dec 27	-7	-6	5	20	15	15	clear	partly cloudy
Armit	Jan 4	-15		5	10	20	30	overcast	mostly clear
Bangor	Dec 23	-10	-5	0	0	30	50	mostly clear	mostly clear
Beauval	Dec 22	-14	-6	0	5	2	10	clear	clear
Bethune-Dilke	Jan 4	2	3	4	10	8	10		clear
Biggar	Dec 27	-9	-6	10	30	0	3	partly cloudy	overcast
Birch Hills	Dec 16	-8	-2	2	25	0	4	mostly clear	clear
Brightwater Res.	Dec 20	-4	-4	5	20	0	5	overcast	cloudy
Broadview	Dec 27	-6	-2	20	25	40	75	clear	mostly clear
Bromhead	Jan 2	-8	-8	15	15	15	20	clear	clear
Cabri	Dec 27	-6	-2	0	5	0	0	clear	overcast
Candle Lake	Dec 31	-19	-10	5	10	6	8	clear	clear
Clark's Crossing	Dec 14	-5	5	10	15	0	3	partly cloudy	partly cloudy
Coronach	Dec 22	-14	-8	0	10	1	5		
Craven	Dec 14	0	5	5	20	1	4	partly cloudy	partly cloudy
Crooked Lake	Jan 4	-11	-1	0	15	10	30	overcast	partly cloudy
Crystal Lake	Jan 3	-6	-3	0	5	8	24	clear	clear
Cypress Hills PP	Dec 30	-8	-3	5	15	0	0	mostly clear	clear
Duck Lake	Dec 16	-5	0	0	5	5	10	mostly clear	overcast
Dundum	Jan 4	-8	-5	0	5	5	10	clear	clear
Eastend	Jan 1	-10	-5	10	35	4	6	partly cloudy	partly cloudy
Emma Lake	Dec 16	-1	0	0	5	10	12	partly cloudy	mostly clear
Endeavour	Dec 22	-7	-5	0	15	10	21	overcast	partly cloudy
Estevan	Dec 23				20	5	15	overcast	partly cloudy
Estuary North	Jan 2	-10	-5	0	5	5	8	partly cloudy	partly cloudy
Fenton	Dec 14	-10	-2	0	10	2	4	clear	mostly clear
Fort Qu'appelle	Dec 16	-5	-2	30	40	2	4	overcast	overcast
Fort Walsh	Dec 14	-2	6	0	50	0	5	partly cloudy	partly cloudy
Gardiner Dam	Dec 16	1	3	20	40	0	5	partly cloudy	partly cloudy
Good Spirit Lake	Jan 1	-12	-16	0	5	25	30	overcast	overcast
Govenlock	Dec 15	0	0		10	0	1	overcast	overcast
Grasslands NP	Jan 2	-5	0	10	15	0	5	clear	
Grayson	Jan 7	-5	7	15	20	10	12	partly cloudy	mostly clear
Harris	Dec 18	-5	-1	15	20	0	5	overcast	partly cloudy
Hepburn	Dec 17	-1	0			3	5	overcast	overcast
Holbien	Dec 30	-20	-10	0	0	20	25	clear	clear
Indian Head	Dec 28								
Kamsack	Jan 5								
Kelvington	Dec 27	-9	-3	10	15	30	36	clear	clear
Kenaston	Dec 28	-9	-2	0	2	3	5	overcast	partly cloudy
Kenosee Lake	Dec 31	-13	-8	0	10	5	25	partly cloudy	overcast
Kilwinning	Dec 17	-2	-5	10	10	0	2	overcast	overcast
Kindersley North	Dec 26	-4	0			0	0	mostly clear	mostly clear
Kinistino	Dec 18	-11	-3	0	0	0	0	overcast	overcast
Kinloch	Dec 17	-5	0	30	50	5	7	overcast	overcast
Kutawagan Lake	Dec 27	-12		5	20	5	20	clear	mostly clear
LaRonge North	Dec 14	-7	-4	5	15	10	13	overcast	overcast

Table 1 Weather and Conditions

Locality	Date	Minimum Temp. (°C)	Maximum Temp. (°C)	Minimum Wind (km/hr)	Maximum Wind (km/hr)	Minimum Snow (cm)	Maximum Snow (cm)	Sky A.M.	Sky P.M.
LaRonge South	Dec 21	-10	-5	10	15	25	45	overcast	overcast
Last Mountain Lake	Dec 29	-5		20	40	10	20	light snow	snow
Leader North	Dec 29	-10	-1	0	5	5	15	overcast	partly cloudy
Love-Torch River	Dec 27	-18	-12	10	15	20	25	clear	mostly clear
Luseland	Dec 30	-20	-12	0	10	6	25	overcast	mostly clear
MacDowall	Jan 2	-10	-6	0	5	8	15	mostly clear	mostly clear
Matador	Jan 2	-6	-2	0	20	10	15	clear	partly cloudy
Mayview	Jan 3	-12	-8	0	5	15	25	partly cloudy	partly cloudy
Meadow Lake	Dec 26	-8	-3	0	0	0	4	partly cloudy	mostly clear
Missinipe	Jan 4	-16	-6	0	0	20	30	overcast	mostly clear
Moose Mountain	Dec 31	-14	-9	25	35	10	20	partly cloudy	overcast
Nipawin	Dec 26	-15		0	5	5	11	clear	partly cloudy
Nisbet Forest W.	Jan 1	-22	-12	0	5	10	25	clear	clear
Paddockwood S.	Jan 3	-9	-9	0	0		15	clear	overcast
Pike Lake	Jan 4	-12	-6	4	9	8	20	clear	mostly clear
Porcupine Plain	Dec 26	-10	-6	15	20	20	25	clear	clear
Preeceville	Jan 1	-23	-13	0	5	30	38	clear	overcast
Prince Albert	Jan 1	0	1	20	20	2	4	overcast	overcast
Prince Albert NP	Dec 13	-15	-10	0	10	5	10	clear	clear
Qu'appelle Dam	Dec 15	-1	3	10	22	0	3	overcast	overcast
Raymore	Dec 26				10	20	25	hoarfrost	mostly cloudy
Regina	Dec 26	-19	-1	0	20	5	20	clear	clear
Rouleau	Dec 28	-3	0	0	0	13	20	overcast	partly cloudy
Round Lake	Dec 28	-13	-5	5	10	15	35	overcast	overcast
Sask. Landing PP	Dec 17	0	4	0	5	0	0	overcast	partly cloudy
Sask. R. Forks	Dec 18	-7	-2	10	13	4	6	overcast	overcast
Saskatoon	Dec 26	-10	1	10	25	2	5	mostly clear	partly cloudy
Shamrock	Dec 27	-6	-2	5	10	2	4	clear	overcast
Skull Creek	Dec 26	0	5	20	40	0	0	mostly clear	mostly clear
Snowden	Dec 31	-22	-15	0	0	10	20	clear	clear
Somme	Jan 4	-13	-3	0	0	12	36	overcast	overcast
Spalding	Jan 5	-14	-8	0	0			partly cloudy	overcast
Spinney Hill	Dec 23	-15	-11	5	12	0	2	clear	clear
Squaw Rapids	Jan 5	-10		2	10	15	30	light cloud	overcast
Stockholm	Dec 26	-14	-10	13	17	20	35	clear	clear
Swift Current	Dec 21	6	10	15	25	0	2	overcast	partly cloudy
Tisdale	Dec 25	-10	-2	5	10	3	5	overcast	overcast
Togo	Jan 2	-10	-7	0	15	30	45	partly cloudy	mostly clear
Turtleford	Dec 29	-9	-7	2	30	0	5	overcast	overcast
Turtle Lake	Jan 4	-10	-5	5	15	5	8	mostly clear	partly cloudy
Waseca	Dec 27								
Watson	Jan 1	-17	-18	15	20	18	20	clear	mostly clear
Weyburn	Dec 28	-2	-2	0	0	5	10	overcast	overcast
White Bear	Dec 27	-9	-6	0	0	0	0	mostly clear	overcast
Whitewood	Dec 29	-8	-7	20	35	20	40	overcast	overcast
Yorkton	Dec 28	-16	-9	0	0	30	35	overcast	overcast

Table 2 Coverage

Locality	Effort						Habitat														
	Participants	Km on Foot	Hours on Foot	Km by Vehicle	Hours by Vehicle	Hours at Feeders	Evergreen Forest	Mixed Forest	Deciduous Forest	Aspen / Farmland	Aspen / Prairie	Native Prairie	Tame Pasture	Farmland	Farmyards	Urban	Open Water	Frozen Lake	Riparian	Muskeg	Landfill
Archerwill	9	3	2	145	5	20		25		25				25	20	5					
Armit	4	1	1	190	6			50		30					20						
Bangor	2				35	2					30			20	50						
Beauval	2	5	3	80	4	1	20	25	15							20			10	10	
Bethune-Dilke	2	2	1	50	4		1			10		30		30	20	9					
Biggar	6	18	9	360	15	2				15				57		28					
Birch Hills	4	4	2	112	5	3				13	13		10	39	20	5					1
Brightwater Res.	3	5	1	138	7				10	10	10	10	10	25	20		5				
Broadview	4	2	2	147	6	3			20		20	5		45	5	5					
Bromhead	3	1	1	134	8							5		90	5						
Cabri	1					0.3						5		75	15	5					
Candle Lake	4	5	4	173	9	1	30	30	30							10					
Clark's Crossing	29	31	19	542	29		1		3	21	6	1	1	11	28	16	1		9		2
Coronach	3	1	1	121	5						15	5	5	10	20	10	35				
Craven	14	35	12	570	27	1				20	10			28	20	20	2				
Crooked Lake	5	1	1	202	6	6			20	20				20	10	10	20				
Crystal Lake	2	1	1	20	2	3	10	10	10		20			50							
Cypress Hills PP	9	10	4			1	60	20			10	10									
Duck Lake	6	15	5	86	6		5	40	10	20				10		15					
Dundum	2	2	1	126	6				10	20	5		10	40	5	5			5		
Eastend	4	10	4	115	3	1	30					15	15	15		18	5				
Emma Lake	4	3	2	55	3	5		95						5							
Endeavour	1	3	2	40	2	2	30			50						20					
Estevan	3	13	6	271	10							1		33	10	20	15		20		1
Estuary North	4	5	3	90	4	2			70			10		15	5						
Fenton	3	2	1	148	5	2				5				75	15	5					
Fort Qu'appelle	20	2	1	150	11				20	20					10	20	20	10			
Fort Walsh	9	27	14	335	15			55				4		15					26		
Gardiner Dam	13	13	8	653	27									73		1	17		9		
Good Spirit Lake	7	2	1	106	6	2	5	5	5	10	10	5	10	40	5	5					
Govenlock	8	16	8	353	13							30			33				37		
Grasslands NP	6	7	5	71	10							70	10	10	5	5					
Grayson	1			7	3	1		20		20		10			10	20					
Harris	4	14	7	255	11					15				57		28					
Hepburn	4	2	1			4										100					
Holbien	1					2									100						
Indian Head	42	30		300		75				15	15	5	5	30	10	20					
Kamsack	28					114	10		10	10	10				30	30					
Kelvington	2			51	1	4				30				60	10						
Kenaston	4	2	1	50	6	1				75				18	2	5					
Kenosee Lake	2	1	1		4	1		5	40	10	5					40					
Kilwinning	2	3	1	200	6		10	10		75		5									
Kindersley North	2	3		60	4									8	30	60	2				
Kinistino	2	4	6			2		40					50		10						
Kinloch	5	7	3	80	4	19	20	40	20	10					10						
Kutawagan Lake	2	3	1	167	7					20	10	10		40	10	10					
LaRonge North	9	3	6	145	9	4		20								80					

Table 2 Coverage

Locality	Effort						Habitat														
	Participants	Km on Foot	Hours on Foot	Km by Vehicle	Hours by Vehicle	Hours at Feeders	Evergreen Forest	Mixed Forest	Deciduous Forest	Aspen / Farmland	Aspen / Prairie	Native Prairie	Tame Pasture	Farmland	Farmyards	Urban	Open Water	Frozen Lake	Riparian	Muskeg	Landfill
LaRonge South	5	5	2	80	6	4		20							5	70					5
Last Mountain Lake	2	2	1	221	9					10		30		50	5	4	1				
Leader North	4	8	5	25	2	2			20			25	10	20	15		10				
Love-Torch River	16	2	1	195	5	9		10		20					50	20					
Luseland	14	14	5	252	5	3				65	10	5	5		5	10					
MacDowall	5	5	2	72	7	10		30		30		5		5	30						
Matador	2	3	2	120	6						25	65	9	1							
Mayview	2	3	1			3		100													
Meadow Lake	7	10	4	150	5	5		10		25	25			20		20					
Missinipe	1	7	2			5		29								71					
Moose Mountain	6	4	2	107	6				60	30						10					
Nipawin	6	1	1	15	2	6	10	40								50					
Nisbet Forest W.	5	1	1	140	4	3		50		10	10			10	10	10					
Paddockwood S.	4			129	6	1	3	3		45	3		2	43	1						
Pike Lake	37	37	32	474	16				15	10			5	15	15	40					
Porcupine Plain	3	1	1	60	4		24		46						18	12					
Preeceville	3					3									100						
Prince Albert	29	22	15	364	22	7				5	5				5	85					
Prince Albert NP	29	70	34	65	3		15	40	28							2		15			
Qu'appelle Dam	7	6	5	381	10			2	10	10	15	8	15	15	10	5	10				
Raymore	1	1	1	90	4					80				10		10					
Regina	31	76	26	581	18	5				3	5		5	30	20	35	2				
Rouleau	3	2		130	7					15				85							
Round Lake	5	1	1	302	11	3			30	30				20			20				
Sask. Landing PP	10	7	7	202	9	1			10		25	10	10	10	20	5	10				
Sask. R. Forks	2	3	2	77	5		15	15	10	5			5	40	5		5				
Saskatoon	118	172	79	869	61	136		2	2	14				6	8	61	1		5		1
Shamrock	5	1	1	155	7									60	38	2					
Skull Creek	6			25	4	1						20		70	10						
Snowden	20		2	114	3	3		20						20	40	20					
Somme	10	12	4	120	4			10	20	10				20	20	20					
Spalding	4	2	2	80	4	3		20						25	25	30					
Spinney Hill	1	6	258	150	5		2		35	35		5			23						
Squaw Rapids	6	17	8	361	19		5	60	5					15	5		10				
Stockholm	2	1	1	112	4					10	10			65	15						
Swift Current	33	81	27	504	29	34						7	7	65		20	1				
Tisdale	2				2	4				15	15			70							
Togo	5	2	1	40	2	1	15	10	50	15	10										
Turtleford	10	13	4	112	5	14															
Turtle Lake	2						50	30	10				10								
Waseca	1	5	2			6										100					
Watson	4	1		40	2	1				40		40		10	10						
Weyburn	9	3	1	298	4									30	30	40					
White Bear	7	10	7	36	2									10	10				80		
Whitewood	20	3	2	403	14	32				20					10	70					
Yorkton	16	2		68	3	10				24						75	1				

Table 3-1 Species found in 10 or more localities () = seen during count period

Aves	Archerwill 27 Dec 2002	Armit 4 Jan 2003	Bangor 23 Dec 2002	Beauval 22 Dec 2002	Bethune-Dilke 4 Jan 2003	Biggar 27 Dec 2002	Birch Hills 16 Dec 2002	Brightwater Res. 20 Dec 2002	Broadview 27 Dec 2002	Bromhead 2 Jan 2003	Cabri 27 Dec 2002
Canada Goose						2		60			
Mallard						1					
Common Goldeneye								2			
Bald Eagle			3					2			
Northern Goshawk						1					
Golden Eagle						1					
Gray Partridge					15	(6)				3	18
Ring-necked Pheasant										21	
Ruffed Grouse	5	4	14	(2)			2				
Sharp-tailed Grouse			36			8			6	61	5
Rock Dove	15		11		10	419	65	18	59	8	127
Great Horned Owl						2		1	(1)	2	2
Snowy Owl			1			(1)				2	2
Downy Woodpecker	5		2	2	2	(1)	3		2	3	
Hairy Woodpecker	11	1	2	7	1	7	6	1	4	2	
Northern Flicker						1	1				1
Pileated Woodpecker	(1)			1							
Northern Shrike											
Gray Jay	5	(1)		7							
Blue Jay	23	5		13	2	1	4		1		
Black-billed Magpie	48	23	16	24	4	176	31	84	51	12	19
Common Raven	59	19	27	68		17	13	3	12		
Horned Lark					4			3	(1)	50	3
Black-capped Chickadee	54	6	24	16	2	61	46	10	43	2	2
Boreal Chickadee	2										
Red-breasted Nuthatch	2	(1)		2		1					
White-breasted Nuthatch	7		1	1		1	1		2		
Brown Creeper											
American Robin						(1)					5
European Starling										12	
Bohemian Waxwing					400	252	132		60	21	1
Cedar Waxwing						7					
American Tree Sparrow										4	6
Dark-eyed Junco	14		3			7	7	3		20	
Lapland Longspur										32	
Snow Bunting	70	4	42		120	30	7	93	14	84	
Pine Grosbeak	77	13		50							
Purple Finch											
House Finch						11			5		(1)
White-winged Crossbill						7					
Common Redpoll	30	75		4		5	7	10	2		
Pine Siskin	(2)					4					
American Goldfinch							3				
Evening Grosbeak	55	40		58							
House Sparrow	93	15	74		100	1059	151	145	204	206	276
Total Birds Count Day	575	207	257	269	660	2085	481	435	475	547	467
Total Birds Count Period	587	209	257	272	660	2094	481	435	477	547	473
Total Species Count Day	18	13	15	15	11	28	18	14	16	20	13
Total Species Count Period	24	15	15	17	11	32	18	14	18	20	15

Table 3-2 Species found in 10 or more localities () = seen during count period

Aves	Candle Lake 31 Dec 2002	Clark's Crossing 14 Dec 2002	Coronach 22 Dec 2002	Craven 14 Dec 2002	Crooked Lake 4 Jan 2003	Crystal Lake 3 Jan 2003	Cypress Hills PP 30 Dec 2002	Duck Lake 16 Dec 2002	Dundurn 4 Jan 2003	Eastend 1 Jan 2003	Emma Lake 16 Dec 2002
Canada Goose		1391	8913	26	13						
Mallard		18	37520		16					14	
Common Goldeneye		80	8	3							
Bald Eagle		2			2					1	
Northern Goshawk		1								1	
Golden Eagle				1	1					1	
Gray Partridge		46	21	24				5	11		
Ring-necked Pheasant				(1)						1	
Ruffed Grouse				1	1						
Sharp-tailed Grouse		46	44	24	1				6		
Rock Dove		267	51	108	2			13	11		
Great Horned Owl	1	3	1	1						(1)	
Snowy Owl		5	1	1					2		
Downy Woodpecker	4	7		11	4	2	4	2		5	2
Hairy Woodpecker	3	11		8	5	1	8	7	2	2	2
Northern Flicker		3		1						3	
Pileated Woodpecker	1							2			
Northern Shrike		1		1	1			1			
Gray Jay	13					1		13			9
Blue Jay	1	3		23	14	5		11		3	10
Black-billed Magpie	13	332	14	155	73	11	10	24	40	25	
Common Raven	166	41		30	21	35	7	43	5		103
Horned Lark			132	4					11	6	
Black-capped Chickadee	40	148		102	65	8	20	26	26	35	96
Boreal Chickadee	8							8			37
Red-breasted Nuthatch				3			20	6		16	19
White-breasted Nuthatch	1			11	9		1	1			4
Brown Creeper				1			1				(1)
American Robin										4	
European Starling		34		2					13	1	
Bohemian Waxwing		68		15	6			344	135	116	20
Cedar Waxwing				33							
American Tree Sparrow										5	
Dark-eyed Junco		13		5						25	
Lapland Longspur		2	3727								
Snow Bunting	2	6	507					50	18		
Pine Grosbeak	2					6		26			26
Purple Finch										(1)	
House Finch		21		2						11	
White-winged Crossbill	1	1						25		6	
Common Redpoll	2			2		18		10			
Pine Siskin											12
American Goldfinch				21	2	18					
Evening Grosbeak						7		5			
House Sparrow		1716	266	388	110			65	124	53	12
Total Birds Count Day	261	4269	51211	1008	346	112	73	688	407	339	352
Total Birds Count Period	261	4269	51211	1009	346	112	73	688	407	341	354
Total Species Count Day	17	28	16	30	18	11	9	22	14	24	13
Total Species Count Period	17	28	16	31	18	11	9	22	14	26	15

Table 3-3 Species found in 10 or more localities () = seen during count period

Aves	Endeavour 22 Dec 2002	Estevan 23 Dec 2002	Estuary North 2 Jan 2003	Fenton 14 Dec 2002	Fort Qu'appelle 16 Dec 2002	Fort Walsh 14 Dec 2002	Gardiner Dam 16 Dec 2002	Good Spirit Lake 1 Jan 2003	Govenlock 15 Dec 2002	Grasslands NP 2 Jan 2003	Grayson 7 Jan 2003
Canada Goose		2550	70		1011		1675				
Mallard		2668			64	34	2154				
Common Goldeneye		8			31		88				
Bald Eagle		2	2	1	2	(1)	34				
Northern Goshawk	(1)		3					1			
Golden Eagle			3		(1)		1			1	
Gray Partridge			8	17	12	(14)	33		12		
Ring-necked Pheasant		2	16			3			1	1	
Ruffed Grouse	1			1	4	2		1			
Sharp-tailed Grouse		8	10	(17)	16	17	13	12		31	
Rock Dove	3	71	1	2	21		67	6			
Great Horned Owl		2	3	1	(1)	1	4		2	1	
Snowy Owl				1	1	1	2		6		
Downy Woodpecker	1	4	1	3	13	6	1	4			2
Hairy Woodpecker	(1)	3	3	7	7	4		7			2
Northern Flicker			2								
Pileated Woodpecker				1				(1)			
Northern Shrike					(1)	3	1		1		
Gray Jay	2										
Blue Jay	1		5	2	22		8	11			
Black-billed Magpie	5	47	100	62	31	117	163	53	12	43	2
Common Raven	60			19	8	22	1	93			2
Horned Lark			446	(3)			3		104	33	
Black-capped Chickadee	11	23	13	46	121	64	33	62			5
Boreal Chickadee											
Red-breasted Nuthatch					6	20					
White-breasted Nuthatch	2	3		(1)	13			5			
Brown Creeper					1	1					
American Robin			3								
European Starling						14		10	15	(6)	
Bohemian Waxwing		200	14	97	28	55	31				
Cedar Waxwing					30						
American Tree Sparrow	1		4			33	1		76		
Dark-eyed Junco	(1)	2	5	3	7	24					
Lapland Longspur						38			133		
Snow Bunting	35	25	135	(2)	(50)	104	140	56	11	155	
Pine Grosbeak	10		15	1	(2)			(12)			
Purple Finch					20						
House Finch		2			(6)						
White-winged Crossbill						4					
Common Redpoll	(3)			1			2				
Pine Siskin	1				4			(1)			
American Goldfinch				12	(3)						
Evening Grosbeak	14										
House Sparrow	35	98	103	83	140	90	913	82	50	20	70
Total Birds Count Day	182	5754	966	360	1616	755	5973	403	426	288	83
Total Birds Count Period	188	5754	966	383	1694	770	5973	417	427	294	83
Total Species Count Day	15	24	24	19	27	32	31	14	15	10	6
Total Species Count Period	19	24	24	23	37	34	31	17	16	11	6

Table 3-4 Species found in 10 or more localities () = seen during count period

Aves	Harris 18 Dec 2002	Hepburn 17 Dec 2002	Holbien 30 Dec 2002	Indian Head 28 Dec 2002	Kamsack 5 Jan 2003	Kelvington 27 Dec 2002	Kenaston 28 Dec 2002	Kenosee Lake 31 Dec 2002	Kilwinning 17 Dec 2002	Kindersley North 26 Dec 2002	Kinistino 18 Dec 2002
Canada Goose				3120							
Mallard				710							
Common Goldeneye											
Bald Eagle				18	1						
Northern Goshawk	1										
Golden Eagle	1										
Gray Partridge	21			310		1	28		(1)	10	
Ring-necked Pheasant											
Ruffed Grouse				3							
Sharp-tailed Grouse	54			67			(7)			(3)	
Rock Dove	76			56			75			45	
Great Horned Owl				8			1			1	
Snowy Owl	6			14		(1)	1			1	
Downy Woodpecker	3		2	43	23	2		7	1		1
Hairy Woodpecker	1	1	2	34	17	2	(1)	7	3		
Northern Flicker											
Pileated Woodpecker				1	8	(1)					1
Northern Shrike								1			
Gray Jay									2		3
Blue Jay	1		6	74	82	2	2	35	3		2
Black-billed Magpie	254	1	2	188	2	18	13	19	42	30	3
Common Raven	11			112	8	8	(1)	21	22		6
Horned Lark	42			7			26			8	
Black-capped Chickadee	26	7	12	394	114	10	4	133	34		8
Boreal Chickadee				1	15				4		
Red-breasted Nuthatch				37	20			2			
White-breasted Nuthatch	1			35	15			6			
Brown Creeper				1							
American Robin				3							
European Starling	4										
Bohemian Waxwing	23			46		15					
Cedar Waxwing	1			367							
American Tree Sparrow											
Dark-eyed Junco		2	6	45	40	4		2			
Lapland Longspur				2						20	
Snow Bunting	10			354	4	240	5000	350	105		
Pine Grosbeak			6		205				18		7
Purple Finch		2		67							
House Finch				70							
White-winged Crossbill				20							
Common Redpoll	3	4		49	55			3	20		
Pine Siskin		5		4	80			69			
American Goldfinch								2			
Evening Grosbeak			20		185				2		42
House Sparrow	410	12		1027	71	3	84	29	25	50	
Total Birds Count Day	949	34	56	7301	946	306	5234	686	281	165	74
Total Birds Count Period	949	34	56	7301	946	308	5244	686	282	168	74
Total Species Count Day	20	8	8	38	19	12	10	15	13	8	10
Total Species Count Period	20	8	8	38	19	14	14	15	14	9	10

Table 3-5 Species found in 10 or more localities () = seen during count period

Aves	Kinloch 17 Dec 2002	Kutawagan Lake 27 Dec 2002	LaRonge North 14 Dec 2002	LaRonge South 21 Dec 2002	Last Mountain Lake 29 Dec 2002	Leader North 29 Dec 2002	Love-Torch River 27 Dec 2002	Luseland 30 Dec 2002	MacDowall 2 Jan 2003	Matador 2 Jan 2003	Mayview 3 Jan 2003
Canada Goose						970					
Mallard											
Common Goldeneye											
Bald Eagle						2					
Northern Goshawk	(1)						1		1		
Golden Eagle						4				2	
Gray Partridge		8			16		15	74			
Ring-necked Pheasant						14					
Ruffed Grouse	3			(1)			1				1
Sharp-tailed Grouse		55			15	3	5	6	15	76	
Rock Dove	6	17				20		8	30	(2)	
Great Horned Owl		1		1	1	1		1			
Snowy Owl		2			2			1		1	
Downy Woodpecker	6	2	3	2		2	5	2	6	1	1
Hairy Woodpecker	8	1	1	3			6	1	7		
Northern Flicker						1					
Pileated Woodpecker	1					5	1		1		
Northern Shrike									(1)		
Gray Jay	11		15	7			6		1		2
Blue Jay	20		4	2			10	17	15		4
Black-billed Magpie	12	69		1	13	24	45	82	6	14	
Common Raven	23	1	120	225			119		15		
Horned Lark					5	5		401		1	
Black-capped Chickadee	58	13	90	41	9	2	54	27	35	3	6
Boreal Chickadee			7	13							2
Red-breasted Nuthatch				2			1	1	5		3
White-breasted Nuthatch	6			1			2				
Brown Creeper											
American Robin						14					
European Starling		1			2	6					
Bohemian Waxwing				60	8	400	1	280		39	
Cedar Waxwing											
American Tree Sparrow											
Dark-eyed Junco	12						(1)	1	1		
Lapland Longspur											
Snow Bunting	(58)	519			681		850	215	12	1010	
Pine Grosbeak	33		65	44			49		35		6
Purple Finch								2			3
House Finch								2			
White-winged Crossbill											
Common Redpoll	220		103	43		20	31		(1)		
Pine Siskin			6				18	(1)			
American Goldfinch									(2)		
Evening Grosbeak	24			13			165		15		2
House Sparrow	6	341			177	12	44	133	6		
Total Birds Count Day	451	1032	417	458	930	1506	1429	1254	206	1147	31
Total Birds Count Period	510	1032	417	460	930	1506	1430	1255	210	1150	31
Total Species Count Day	18	14	12	15	12	19	21	18	17	9	11
Total Species Count Period	20	14	12	17	12	19	22	19	20	11	11

Table 3-6 Species found in 10 or more localities () = seen during count period

Aves	Meadow Lake 26 Dec 2002	Missinipe 4 Jan 2002	Moose Mountain 31 Dec 2002	Nipawin 26 Dec 2002	Nisbet Forest W. 1 Jan 2003	Paddockwood S. 3 Jan 2003	Pike Lake 4 Jan 2003	Porcupine Plain 26 Dec 2002	Preeceville 1 Jan 2003	Prince Albert 15 Dec 2002	Prince Albert NP 13 Dec 2002
Canada Goose							(15)				
Mallard											
Common Goldeneye											
Bald Eagle											3
Northern Goshawk							2				
Golden Eagle											
Gray Partridge	(12)						9				
Ring-necked Pheasant											
Ruffed Grouse							1		7	3	4
Sharp-tailed Grouse	17						32				
Rock Dove			11				58		11	238	
Great Horned Owl							6			(1)	
Snowy Owl					1						
Downy Woodpecker	3	1	8	5	2	3	29		6	4	3
Hairy Woodpecker	2	1	10	2	4	4	21	2	5	8	8
Northern Flicker							3				
Pileated Woodpecker		(1)	1	1	(1)		4		3	1	1
Northern Shrike							1				
Gray Jay	6	6				2		3		5	18
Blue Jay	7	3	35	8	9	10	35		3	20	1
Black-billed Magpie	15		40	4	19	12	288	8	3	107	21
Common Raven	66	5	6	31	36	37	90	17	7	220	90
Horned Lark							11				
Black-capped Chickadee	49	14	68	9	31	8	384	8	22	194	137
Boreal Chickadee		2								3	48
Red-breasted Nuthatch	1			4			1		2	6	6
White-breasted Nuthatch	2		3	2	2	2	11		2	6	4
Brown Creeper										1	
American Robin							11			3	
European Starling	3	(1)					1				
Bohemian Waxwing	(18)			50	(1)		1474			7438	
Cedar Waxwing							41				
American Tree Sparrow							5			1	
Dark-eyed Junco	10			4			10	1		4	
Lapland Longspur											
Snow Bunting	100				1400		395	15	12		
Pine Grosbeak	32	23		7	28	20	36		27	42	75
Purple Finch							6				
House Finch							1				
White-winged Crossbill											
Common Redpoll	(2)		1		25	9	2		25	4	13
Pine Siskin	27		23					2		50	1
American Goldfinch											
Evening Grosbeak	46	(2)		10	45	24	1	28	3	5	2
House Sparrow	35		110		6	3	562	10		1202	
Total Birds Count Day	427	55	316	137	1608	134	3537	94	138	9566	445
Total Birds Count Period	459	59	316	137	1611	134	3552	94	138	9568	445
Total Species Count Day	18	8	12	13	13	12	35	10	15	24	18
Total Species Count Period	21	11	12	13	16	12	36	10	15	26	18

Table 3-7 Species found in 10 or more localities () = seen during count period

Aves	Qu'appelle Dam 15 Dec 2002	Raymore 26 Dec 2002	Regina 26 Dec 2002	Rouleau 28 Dec 2002	Round Lake 28 Dec 2002	Sask. Landing PP 17 Dec 2002	Sask. R. Forks 18 Dec 2002	Saskatoon 26 Dec 2002	Shamrock 27 Dec 2002	Skull Creek 26 Dec 2002	Snowden 31 Dec 2002
Canada Goose	680		6406		(1)	566		6194		18	
Mallard	76		33		9	34		460			
Common Goldeneye	80		1					250			
Bald Eagle	5				2	2		1		7	
Northern Goshawk								1			
Golden Eagle	2				1	1			(1)	2	
Gray Partridge		(2)	50			20		14	26	25	11
Ring-necked Pheasant						21				4	
Ruffed Grouse		(1)	3				1	1			7
Sharp-tailed Grouse		(5)	11		10	13		14		25	11
Rock Dove	49		780	53	4	45		3585	9		
Great Horned Owl		1	4	2	1	5		2	4	4	
Snowy Owl	9		4	1				(1)	2	2	
Downy Woodpecker		1	16		7	4		53		4	13
Hairy Woodpecker	1	2	15		7	1	2	45			9
Northern Flicker	2		15		1	1		24			
Pileated Woodpecker					1						
Northern Shrike			1		3			2			
Gray Jay							1				17
Blue Jay	3				6		4	111	1		31
Black-billed Magpie	109	27	151	6	26	61	9	1210	24	50	123
Common Raven	40	5	3		12		11	24			155
Horned Lark		5							44	300	
Black-capped Chickadee	20	6	104	3	68	21	49	920		30	102
Boreal Chickadee							4				5
Red-breasted Nuthatch	2		57		2			92		1	4
White-breasted Nuthatch			10		11			8			1
Brown Creeper			2			3					
American Robin			3					3		1	
European Starling			56	1		19		62	2		
Bohemian Waxwing	171	20	59			17	29	381			
Cedar Waxwing			15					25		70	
American Tree Sparrow										25	
Dark-eyed Junco			22			2	1	8		4	4
Lapland Longspur									82		
Snow Bunting	11	2	11	75	4		3	300		200	941
Pine Grosbeak	15						11	22			125
Purple Finch	1										
House Finch	4		76					466			
White-winged Crossbill	5	30	15				17	15			
Common Redpoll			4		1		34	17		30	96
Pine Siskin			22					15			4
American Goldfinch			8		2			2			
Evening Grosbeak					1		7				189
House Sparrow	238	55	942	33	20	191		6589	655	50	32
Total Birds Count Day	1551	154	8927	176	206	1031	183	20954	849	853	1882
Total Birds Count Period	1551	162	8927	176	208	1031	183	20959	850	853	1882
Total Species Count Day	26	11	42	8	24	21	15	46	10	21	22
Total Species Count Period	26	14	42	8	26	21	15	49	11	21	22

Table 3-8 Species found in 10 or more localities () = seen during count period

Aves	Somme 4 Jan 2003	Spalding 5 Jan 2003	Spinney Hill 23 Dec 2002	Squaw Rapids 5 Jan 2003	Stockholm 26 Dec 2002	Swift Current 21 Dec 2002	Tisdale 25 Dec 2002	Togo 2 Jan 2003	Turtleford 29 Dec 2002	Turtle Lake 4 Jan 2003	Waseca 27 Dec 2002
Canada Goose						2					
Mallard				4	12	9					
Common Goldeneye				113							
Bald Eagle	3		1	8			1				
Northern Goshawk			1								
Golden Eagle	1				1						
Gray Partridge	2	12			(10)	64			1		
Ring-necked Pheasant						23					
Ruffed Grouse	1			3					1	4	1
Sharp-tailed Grouse	17		12	5	1	12			4		
Rock Dove	6	11	1	1	17	547			85		
Great Horned Owl				1	(1)	10					
Snowy Owl					(1)	3					
Downy Woodpecker	5	2	3	3		25	2	8	8	2	2
Hairy Woodpecker	9	1	5	6			4	8	5	3	2
Northern Flicker						(1)					
Pileated Woodpecker	2			3					1	2	
Northern Shrike											
Gray Jay	4			3			1	2		2	
Blue Jay	25		7	7		(1)	2	15	6	7	6
Black-billed Magpie	73	7	62	28	7	190	6	8	17	3	6
Common Raven	221	2	7	129	15		7	16	14	15	1
Horned Lark	(25)					313					
Black-capped Chickadee	79	11	16	15	2	(2)	6	62	65	7	8
Boreal Chickadee	1			2						1	3
Red-breasted Nuthatch	1					48				1	
White-breasted Nuthatch	14	1		1		6		9		2	
Brown Creeper				1							
American Robin						2					
European Starling						3					
Bohemian Waxwing						(40)	56				8
Cedar Waxwing									3		
American Tree Sparrow											
Dark-eyed Junco	6					9			21		7
Lapland Longspur					5	140					
Snow Bunting	266		7	213	10	180	10	101	100	15	
Pine Grosbeak	130		10	52			10	15	30	15	12
Purple Finch						40			22		
House Finch						199					
White-winged Crossbill											
Common Redpoll	27			156		16				3	
Pine Siskin		3				30					
American Goldfinch									6		
Evening Grosbeak	96			20				16	2	20	
House Sparrow	125	41	37	46	3	2033	22	24	39		
Total Birds Count Day	1115	93	169	845	75	3917	127	284	431	104	56
Total Birds Count Period	1149	93	169	845	87	3962	127	284	431	104	56
Total Species Count Day	24	11	13	30	11	28	12	12	20	18	11
Total Species Count Period	26	11	13	30	14	33	12	12	20	18	11

Table 3-9 Species found in 10 or more localities () = seen during count period

Aves	Watson 1 Jan 2003	Weyburn 28 Dec 2002	White Bear 27 Dec 2002	Whitewood 29 Dec 2002	Yorkton 28 Dec 2002	Totals Count Day	Totals Count Period	# of Counts Seen Count Day	# of Counts Seen Count Period
Canada Goose						33667	33683	18	20
Mallard					8	43844	43844	19	19
Common Goldeneye						664	664	11	11
Bald Eagle						105	106	23	24
Northern Goshawk			(1)	(1)		14	18	11	15
Golden Eagle			3			27	29	17	19
Gray Partridge	7	55	23	12		1039	1084	37	43
Ring-necked Pheasant		1				108	109	12	13
Ruffed Grouse						81	85	28	31
Sharp-tailed Grouse		22	13	14		873	905	43	47
Rock Dove		172	175	84	152	7782	7784	53	54
Great Horned Owl		(1)	2	(1)	1	85	92	36	43
Snowy Owl		(2)	2	(1)	(1)	77	85	28	35
Downy Woodpecker	1	2	(2)	19	4	455	458	74	76
Hairy Woodpecker	3			11	3	427	429	73	75
Northern Flicker		1			1	61	62	16	17
Pileated Woodpecker						43	48	22	27
Northern Shrike		1				18	20	13	15
Gray Jay						167	168	28	29
Blue Jay	(2)			3	2	814	817	63	65
Black-billed Magpie	4	22	73	84	23	5584	5584	89	89
Common Raven	(7)			13	73	2933	2941	67	69
Horned Lark		10	7			1984	2013	27	30
Black-capped Chickadee	5	11	1	310	49	5184	5186	87	88
Boreal Chickadee						166	166	19	19
Red-breasted Nuthatch				3	2	399	400	35	36
White-breasted Nuthatch		1		10	4	241	242	45	46
Brown Creeper		(1)				12	14	9	11
American Robin		(1)				52	54	11	13
European Starling		2	30	6	12	311	318	24	26
Bohemian Waxwing	(9)			32	361	12963	13031	41	45
Cedar Waxwing		(20)		(12)		592	624	10	12
American Tree Sparrow			2			163	163	12	12
Dark-eyed Junco		11		8	2	385	387	41	43
Lapland Longspur				1		4182	4182	11	11
Snow Bunting	130	338		1045		16942	17052	61	64
Pine Grosbeak						1431	1445	41	43
Purple Finch						163	164	9	10
House Finch		21		146		1037	1044	15	17
White-winged Crossbill						146	146	12	12
Common Redpoll		26		81	(1)	1289	1296	43	47
Pine Siskin						380	384	20	23
American Goldfinch						76	81	10	12
Evening Grosbeak						1162	1164	32	33
House Sparrow	30	502	200	726	105	23837	23837	76	76
Total Birds Count Day	180	1203	531	2609	803	172988			
Total Birds Count Period	198	1231	535	2624	806		173487		
Total Species Count Day	7	20	12	20	17	95			
Total Species Count Period	10	27	15	24	20		102		

Table 4 Species found in fewer than 10 localities

Species	Locality and Number (* = Count Period)
American White Pelican	Fort Qu'appelle (1)
Great Blue Heron	Fort Qu'appelle (1*)
Greater White-fronted Goose	Biggar (1)
Gadwall	Fort Qu'appelle (1)
American Wigeon	Biggar (1), Saskatoon (1)
Northern Shoveler	Qu'appelle Dam (1)
Northern Pintail	Coronach (4), Qu'appelle Dam (1), Saskatoon (1)
Green-winged Teal	Coronach (1), Estevan (1), Fort Walsh (2)
Redhead	Estevan (3), Gardiner Dam (14)
Lesser Scaup	Estevan (11), Gardiner Dam (4), Qu'appelle Dam (3), Regina (2), Saskatoon (6)
Long-tailed Duck	Gardiner Dam (1)
Bufflehead	Squaw Rapids (1)
Common Merganser	Gardiner Dam (25), Qu'appelle Dam (22), Squaw Rapids (7)
Sharp-shinned Hawk	Archerwill (1*), Indian Head (1)
Red-tailed Hawk	Sask. Landing PP (1), Swift Current (1)
Rough-legged Hawk	Estevan (1), Grasslands NP (1), Saskatoon (1), Swift Current (1*), Whitewood (1)
Merlin	Clark's Crossing (1), Eastend (1), Govenlock (1), Prince Albert (1), Regina (3), Saskatoon (6), Swift Current (1), Weyburn (1)
Gyr Falcon	Biggar (1), Clark's Crossing (1), Gardiner Dam (1)
Peregrine Falcon	Indian Head (1)
Prairie Falcon	Fort Walsh (1), Gardiner Dam (1), Govenlock (1), Grasslands NP (2), Leader North (1), Matador (1*), Qu'appelle Dam (1), Skull Creek (1), White Bear (1*)
Spruce Grouse	Beauval (15), LaRonge North (1), Mayview (1), Somme (1), Squaw Rapids (1), Turtle Lake (1)
Willow Ptarmigan	LaRonge South (1*)
Wild Turkey	Broadview (9), Cabri (5*), Fort Walsh (2)
American Coot	Estevan (18), Regina (1)
Wilson's Snipe	Sask. Landing PP (2)
Herring Gull	Gardiner Dam (4)
Glaucous Gull	Gardiner Dam (2)
Eurasian Collared-Dove	Eastend (1), Swift Current (4)
Mourning Dove	Pike Lake (1), Snowden (1), Squaw Rapids (2)
Northern Hawk Owl	Beauval (1)
Barred Owl	Nisbet Forest W. (1*)
Great Gray Owl	Archerwill (1*), Armit (1), Candle Lake (1), Turtle Lake (1)
Short-eared Owl	Estevan (2), Fort Walsh (1), Govenlock (1*), Kutawagan Lake (2), Last Mountain Lake (1), Saskatoon (1*), Swift Current (3)
Boreal Owl	Round Lake (1*)
Belted Kingfisher	Fort Qu'appelle (1), Saskatoon (1)
Yellow-bellied Sapsucker	Broadview (1)
Three-toed Woodpecker	Archerwill (1*), Beauval (1*), Candle Lake (2), Duck Lake (1), LaRonge North (2), Prince Albert NP (10), Squaw Rapids (4), Weyburn (1*)

Table 4 Species found in fewer than 10 localities

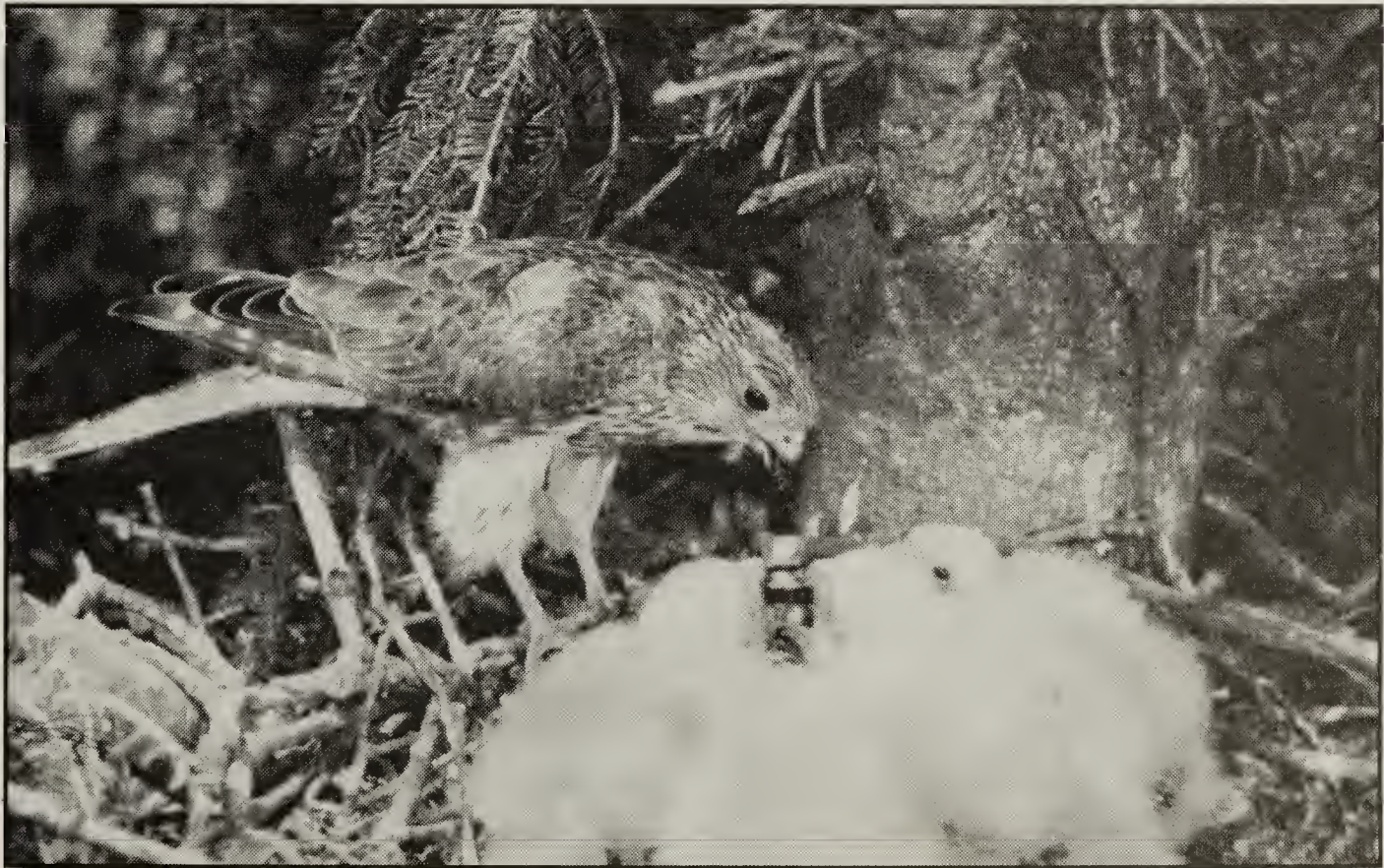
Species	Locality and Number (* = Count Period)
Black-backed Woodpecker	Birch Hills (1), Emma Lake (1*), Kinistino (1), Regina (1), Saskatoon (2), Snowden (1), Squaw Rapids (5), Turtleford (1)
American Crow	Indian Head (4), Regina (8), Saskatoon (7), Stockholm (2), Weyburn (2)
Golden-crowned Kinglet	Biggar (1), Fort Walsh (19), Regina (4), Saskatoon (1), Swift Current (4), Weyburn (2*)
Mountain Bluebird	Saskatoon (1)
Townsend's Solitaire	Birch Hills (1), Pike Lake (3), Regina (2)
Gray Catbird	Yorkton (1*)
Varied Thrush	Kamsack (1), Kelvington (1)
White-throated Sparrow	Meadow Lake (6), Pike Lake (1), Regina (4), Saskatoon (2), Spalding (2)
Harris's Sparrow	Craven (1), Eastend (3), Fort Qu'appelle (1*), Indian Head (1)
White-crowned Sparrow	Fort Walsh (1), Saskatoon (1)
Northern Cardinal	Prince Albert (1*)
Red-winged Blackbird	Bromhead (1), Estuary North (1), Fort Walsh (6), Regina (1), Round Lake (6),
Western Meadowlark	Bromhead (1), Dundurn (1), Gardiner Dam (1), Kenaston (1*)
Rusty Blackbird	Fort Qu'appelle (12*), Fort Walsh (3), Regina (1), Somme (9*),
Brewer's Blackbird	Fort Walsh (1), Kinloch (1), Weyburn (2)
Common Grackle	Archerwill (6*), Bangor (1), Kinloch (1), Pike Lake (1), Regina (1), Round Lake (1),
Brown-headed Cowbird	Saskatoon (3*)
Gray-crowned Rosy-Finch	Indian Head (7), Yorkton(1)
Red Crossbill	Cypress Hills PP (2), Fort Walsh (61), Saskatoon (8)
Hoary Redpoll	Armit (1), Squaw Rapids (3)

Table 5 Birds not identified to species

Category	Locality and Number
Goose sp.	Gardiner Dam (550)
Eagle sp.	Coronach (1), Gardiner Dam (2), Sask. Landing PP (1)
Buteo sp.	Govenlock (1)
Owl sp.	Rouleau (2)
Woodpecker sp.	Clark's Crossing (1), Dundurn (2), Fort Walsh (1), Squaw Rapids (2)

Table 6. New (in bold and italics) and tying high counts for individual species 2002. Count period results are in brackets.

LOCATION	2002 COUNT	SPECIES	PREVIOUS HIGH	LOCATION, YEAR
Fort Qu'Appelle	(1)	Great Blue Heron	1	Fort Walsh 1985, 2001, Barrier Lake 1988, (Crooked Lake 1992)
Coronach	37520	Mallard	17000	Coronach 1997
Fort Walsh	2	Green-winged Teal	2	Fort Walsh 2001, Saskatoon 1974
Gardiner Dam	1	Long-tailed Duck	1	(Fort Qu'Appelle 1968), Saskatoon 1997
Indian Head	1	Peregrine Falcon	1	N. to Squaw Rapids-Carrot River
Saskatoon	3585	Rock Dove	3173	Saskatoon 1986
Saskatoon	53	Downy Woodpecker	46	Saskatoon 2000
Saskatoon	45	Hairy Woodpecker	39	Pike Lake 1998
Prince Albert	10	Three-toed Woodpecker	8	Somme 1977
Saskatoon	111	Blue Jay	111	Saskatoon 1995, 1998
Saskatoon	1210	Black-billed Magpie	984	Saskatoon 2001
Saskatoon	920	Black-capped Chickadee	732	Saskatoon 2000
Indian Head	35	White-breasted Nuthatch	30	Kamsack 2001
Pike Lake	3	Townsend's Solitaire	3	Regina 1985
Yorkton	1	Gray Catbird	1	Moose Jaw 2001
Govenlock	76	American Tree Sparrow	43	Fort Walsh 1979
Indian Head	67	Purple Finch	62	Swift Current 2001
Saskatoon	466	House Finch	386	Saskatoon 2001
Craven	21	American Goldfinch	10	Craven 1999



Female Merlin feeding young, near Hendon 1989 Kelly Kozij

Table 7. Population changes of selected species compared to 2001 and 1997-2001 (based on birds per observer).

Species	% change from 2001	% change from 1997-2001		% change from 2001	% change from 1997-2001
Canada Goose	1	55	Black-billed Magpie	12	6
Mallard	80	92	Common Raven	10	20
Common Goldeneye	-6	-7	Horned Lark	-38	-18
Common Merganser	-65	-73	Black-capped Chickadee	30	27
Bald Eagle	15	19	Boreal Chickadee	-21	1
Northern Goshawk	18	-3	Red-breasted Nuthatch	-51	-22
Rough-legged Hawk	-85	-78	White-breasted Nuthatch	4	-16
Golden Eagle	-24	-24	Brown Creeper	-57	15
Merlin	10	-7	Golden-crowned Kinglet	-60	-60
Prairie Falcon	-51	-11	American Robin	-89	-60
Gray Partridge	96	8	European Starling	-30	-30
Ring-necked Pheasant	40	-21	Bohemian Waxwing	488	25
Ruffed Grouse	-23	-35	Cedar Waxwing	52	92
Sharp-tailed Grouse	-8	-19	American Tree Sparrow	412	286
Rock Dove	-2	7	Dark-eyed Junco	116	130
Great Horned Owl	-23	-17	Lapland Longspur	770	468
Snowy Owl	6	9	Snow Bunting	-26	-15
Short-eared Owl	10	-39	Red-winged Blackbird	175	34
Downy Woodpecker	43	28	Rusty Blackbird	-27	-59
Hairy Woodpecker	47	27	Pine Grosbeak	-12	12
Three-toed Woodpecker	161	111	Red Crossbill	30	-24
Black-backed Woodpecker	20	36	White-winged Crossbill	-47	40
Northern Flicker	26	36	Common Redpoll	-91	-86
Pileated Woodpecker	57	65	Hoary Redpoll	-96	-96
Northern Shrike	120	17	Pine Siskin	8	10
Gray Jay	-3	8	Evening Grosbeak	-39	-42
Blue Jay	40	22	House Sparrow	9	11



ADDITIONAL NOTES ON MANITOBA'S LONG-LIVED GREAT HORNED OWL (BAND NUMBER 568-17752)

SPENCER G. SEALY, Department of Zoology, University of Manitoba, Winnipeg, MB R3T 2N2; JAMES C. DUNCAN, Manitoba Conservation, 200 Saulteaux Crescent, Winnipeg, MB R3J 3W5; and ROBERT W. NERO, 546 Coventry Road, Winnipeg, MB R3R 1B6

Much has been written about a Great Horned Owl that was banded in the Winnipeg suburb of Charleswood, Manitoba, on 20 December 1964 and found injured on 6 January 1992, a few blocks from the original banding site.^{6,13,19} Trapped and banded by Matt Dedrick, on Harold V. Hosford's banding permit (band number 568-17752), this bird was found over two decades later by a staff member of the Assiniboine Park Zoo who captured it on the zoo's property, thin and weak after an apparent collision with a moving vehicle on a nearby street. An irreparable fracture of the frontal bone on one orbit and a grossly distended eye led zoo staff to euthanize the bird.¹³

The specimen was delivered to the University of Manitoba Zoology Museum (UMZM) where it was kept frozen until October 2000, when Sealy prepared it as a study skin (Fig. 1) and catalogued it in the museum's avian collection (UMZM 2628). The frozen bird weighed 1125 g, which was less than the bird's weight (1755 g) when it was banded and much less than the 2025 g it weighed when recaptured by Dedrick two years after banding on 24 December 1966 (Nero 1992). Upon dissection, the emaciated bird was determined to be a female, with the largest ova about 1 mm in diameter, confirming Dedrick's original determination of the bird's sex based on measurements. Dedrick (pers. comm. to Nero, 27 March 1992) had noted that the bird had nested for years in Assiniboine Park Forest, in urban Winnipeg, although



Figure 1. Great Horned Owl banded (number 568-17752) on 20 December 1964 in Winnipeg, Manitoba, and recovered near the original banding site on 6 January 1992.

this was never confirmed. Surviving the perils of living in an urban setting for so many years seems remarkable,¹³ although the threat of shooting, once so real in rural areas, was reduced.^{8,10}

The variation in pattern and colouration of plumages of Great Horned Owls in Manitoba is pronounced. Most adults are pale with white legs and feet and gray facial discs, and probably are referable to the subspecies *Bubo virginianus subarcticus*,^{8,15} an example of which is illustrated on page 32 in P.A. Taverner's *Birds of Canada*.¹⁷ Of 27 specimens of the Great Horned Owl in the University of Manitoba Zoology Museum, salvaged from various sites in Manitoba and Saskatchewan, only this and one other specimen (UMZM 1292) showed the rich rufous markings of nominate *B. v. virginianus*. This subspecies ranges approximately from neighboring Minnesota across southern Ontario to Nova Scotia and south to Texas and Florida.⁸ It is distinguished from *subarcticus* by its "medium dark coloration with distinctive amount of redness in the plumage (p. 310)"⁵ with rusty facial discs and legs and feet of tawny to buff with black bars (see also Fig. 1). A typical example of *virginianus* is depicted by John Crosby's illustration (Plate 42) in *The Birds of Canada*.⁵ A photograph of specimens representing three subspecies, including *virginianus* and *subarcticus*, is presented on page 67 of Ron Pittaway's treatise of the subspecies of the Great Horned Owl in Ontario.¹⁵

Calculation of longevity

There are two recognized types of longevity: potential longevity and realized longevity.¹² As described by Krebs in his fifth edition of *Ecology*, the first is the maximum life span attainable by an individual and is a limit set by the individual's physiology, such that it dies of old age.¹² But individuals seldom live under optimal conditions, except in captivity where they are less likely to be killed accidentally, succumb to disease or be eaten by predators. There is an unsubstantiated report of a captive Great Horned Owl that lived for 68 years!¹ Realized longevity, on the other hand, is the actual life span of an individual as measured in the field, which is then averaged for all individuals in a

population living under real environmental conditions.¹²

The age of owl number 568-17752 at the time of death was estimated to be at least 28 years, 7 months, as it was banded as an adult in 1964 and assumed to have hatched at least as early as the summer of 1963.¹³ This record was submitted to the North American Bird Banding Laboratory (hereafter banding lab) of the United States Geological Survey, which, using its own set of criteria to calculate longevity for birds whose ages are not known at the time of banding, assigned a minimum age of 27 years, 7 months.^{3, 11, 18}

The ability to determine the age class of captured owls whose hatching year is unknown varies from species to species and all methods include uncertainty. In such cases the banding lab calculates longevity based on the date the bird was banded. If banded after the breeding season and before 1 January, the age is recorded as unknown and a minimum estimate of longevity would include the number of months since June (the banding laboratory assumes a June hatching date for all species) of the calendar year it was banded, plus the time passed from 1 January to the date of recovery.

Regardless of the method of calculation, this is the oldest wild Great Horned Owl on record.^{8, 13} It is several years older than the two oldest individuals banded as nestlings (21 years, 4 months and 22 years, 2 months) that were mentioned in *The Birds of North America* account for this species.⁸ Longevity records of 17 years, 3 months and 20 years, 7 months for Great Horned Owls were listed in compilations of records of longevity of North American birds,^{3, 11} and repeated in Carey and Judge's comprehensive compilation of records for birds and other vertebrate groups.²

No other species of owl in North America has been confirmed living longer in the wild. The next oldest owl was a Barred

Owl, at 20 years, 2 months.¹¹ A Barn Owl banded as a nestling was stated to have lived for 34 years, but banding and recovery dates for this individual were not given.¹⁰ Indeed, life spans of other Barn Owls in North America based on the record above and subsequent records on file in the banding lab, revealed records of 11 years, 6 months and 15 years, 5 months.^{3, 9}

Why calculate longevity? As a species characteristic, longevity is a rather inexact measurement, but because it has striking publicity value, it has been frequently quoted.¹⁶ Longevity estimates are subject to errors in record keeping and are influenced by the number of birds banded and the number of years in which the particular study was conducted. Large numbers of birds must be banded over many years, up to the theoretical limit of maximum lifespan, to increase the chances of recapturing or recovering individuals that have lived a long time.¹⁶ Nevertheless, longevity records have revealed differences between habitats, continents and life-styles.^{2, 4} A detailed analysis of data from millions of banded birds determined that the observed longevity of birds relates significantly to population dynamics, that is, the longer a species lives, the higher the annual survival rate for both adults and young.¹⁴ This relationship is important for owl conservation because it is not often possible to band large numbers of owls, as Stuart Houston has done with nestling Great Horned Owls in Saskatchewan, making longevity records one of the best available approximations of annual survival rates for some species.⁷

Acknowledgements

We are indebted to Matt Dedrick for banding the Great Horned Owl so long ago and for providing Nero with detailed descriptions of the owl and information pertaining to the circumstances of its initial capture and banding and subsequent recapture. We also thank the personnel of the Assiniboine Park Zoo in Winnipeg for

realizing the significance of this specimen and turning it over to Nero. Robert Barrow of The Manitoba Museum photographed the specimen.

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THE SECOND ROSS'S GULL OF MY LIFE WAS A FIRST FOR SASKATCHEWAN

JAMES K. FINLEY, 10232 Summerset Place, Sidney, BC V8L 4X2

Dedicated to the memory of Wayne Harris, one of Saskatchewan's finest naturalists.

We drove down the road past the old Wise homestead, three biology students from the University of Saskatchewan, Wayne Harris, Wayne Renaud, and myself, and stopped at the "Wise Slough"* to study some shorebirds. It was 1971 or 72. Renaud included some of our observations in his *Birds of the Rosetown - Biggar District*, though he didn't mention the flock of dowitchers.¹ We argued over their identity

so Harris and I collected a few for "study purposes", much to Renaud's chagrin.

Three decades after the dowitcher incident, on October 26th, 2002, I was driving down the same road past the Wise place with my brother-in-law, Brent Honeker, a local farmer, surveying the crops. It was a disastrous year, the fourth and most severe year of a deep drought; after a cold



Figure 1. Ross's Gull in flight near the Wise place, October 26th, 2002.

52 ° 09' N, 109 ° 17' W.

James K. Finley

windy spring and drifting soil, came intense heat, grasshoppers, sawflies, frost in early August, then a local cloudburst, and wet weather since. What little grain there was remained standing or in swaths and it appeared unlikely that it would be harvested. For the first time in my father's memory, during the spring, there was not a single slough remaining in a country that once boasted one of the highest densities of ducks and geese in the province. The municipality of Grass Lake was notable for having one of the lowest levels of precipitation in Palliser's Triangle during the growing season. Then came a freak deluge in mid-August that dumped six inches of rain overnight in a narrow swath along the glacial valley. Grass Lake Creek, which hasn't flowed in decades, backed up behind Zunti's road to a depth of ten or twelve feet, before drowning the grain-fields in the lake bottom. For the first time in many years, the lake and many surrounding sloughs had water; thousands of geese were flying out to feed on the unharvested crops. We saw several eagles, golden and bald, perched on granaries, waiting to pick up the wounded.

We passed the Wise Slough but it was dry; buffered by a strip of fescue prairie

and crops, it had received no runoff. A quarter mile down the road, we slowed as four yellowlegs flushed from a roadside slough, and just as the far southwest corner of the slough was about to disappear behind the willows, I glimpsed a white bird swimming along the margin. Out of idle curiosity I asked my brother-in-law to back up. I studied the bird with binoculars for a while and was about to pass it off as an errant Bonaparte's Gull when it flushed with a tern-like flight and settled again. A Ross's Gull came to mind, and I harked back to an earlier time when I'd seen this species, and though I thought it extremely unlikely to see another, I left the comfort of the truck and crept around the willows, emerging close to where the bird was pecking at the surface. To my surprise, it proved to be an adult Ross's Gull with its distinctive wedge-shaped tail.

Pleased, I returned to the truck and informed my brother-in-law that he had a once-in-a-lifetime opportunity to see one of the rarest birds in North America, a pink gull from Siberia. Except it wasn't pink at this season, I explained, and was not quite as spectacular as the first (and only) other time I'd seen the species. I grabbed my camera and we returned to capture the record

for posterity. Like many polar species unused to humans, the gull was tame, circling over our heads several times, curious over something other than a polar bear. I took one photograph but the light was poor and I doubted whether I'd captured the image. In jest, Brent suggested we could document it with a shotgun that he carried in the truck. In the old days, we might have done just that, I replied and mentioned the dowitcher incident, which brought on memories of Harris. We'd both sat with him in geography and biology classes in university.

"Harris" as we called him, to distinguish him from "Renaud", the other Saskatchewan ornithologist, was my lab partner in statistics. Hard to believe but we predated the electronic age; our calculations were made with huge mechanical calculators that required prodigious prodding before they spewed out our standard deviations. A good-hearted joker, he would drive me to distraction by punching in vast sums of nines, then dividing by vast sums of nines terminated with an eight. The machines would rattle on maddeningly until they seized up. Needless to say we barely scraped through stats.

Next morning, I returned, armed with faster film, but the slough was frozen over and the gull was gone. As the day was dull and cold, I returned to my childhood home and decided (after years of cajoling by my mother) to stay indoors and clean out my old dresser, a daunting task of deciding which marbles to keep, jackknives, rocks, bird bands, feathers, models, and a vast collection of nostalgic souvenirs. Ruthlessly I purged until I came to the bottom drawer full of old clothes. I was about to dump them in a garbage bag when I noticed an old grey sweater with an orange stain down its front. Remarkably, it was the same sweater I'd worn the first time I'd seen a Ross's Gull, and I was transported back in time.

It was on the seabird cliffs of Bylot Island, now a national park in the High

Arctic, and I was with an Eskimo family from Pond Inlet, collecting seabird eggs. It was July 2nd, 1979. I'd climbed part way up through a kittiwake colony, using an abraded rope that had been left from previous years, when my knees began to shake. As I hugged the cliff, trying to bolster my courage, a Ross's Gull passed close by, eyeing me curiously. It was a pink-hued adult in handsome breeding plumage, and though it did not imbue me with the courage to climb higher, it certainly impressed me. With some loss of face I retreated to the safety of the sea ice where the Ross's Gull was sitting with a gaggle of kittiwakes, while the daring Eskimos climbed higher to the murre colony.

Charlie (Kuvarqtaq) Enuaraq was a great joker and an intrepid egger. When he reached the murre ledges, much higher than I had climbed, he yelled that he had a gift for me, a beautiful murre egg, if I could catch it. By making a bib of my sweater, I gestured that I was willing. Murre eggs are beautiful hues of green and blue, finely splotched, sharply pointed so they don't roll off the edges, big as a chicken egg but heavier shelled, wonderfully aerodynamic. I took it squarely on the chin, leaving me stunned and reeling, bright orange, with yolk spattered down my sweater. Above the cacophony of seabirds, the cliff erupted with Charlie's laughter. Later, at our camp at Sunaruutit (Button Point), I told the hunters that I'd seen a very unusual bird, a pink gull from Russia. Charlie pointed at me, and his reply, in Inuktitut, nearly brought the tent down with laughter. "It looks like an orange bird to me".

It was the only sweater I had taken on the trip and I slept in it for several days while we camped along the ice edge hunting narwhals, eating muktuk and seabird eggs. "Looks like an orange bird to me" became a great joke along the ice edge, helping to melt the ice between our cultures. The stain never came out and it became something of a souvenir.

The sighting of my first Ross's Gull, over two decades ago, was reported in an article on the birds of northern Baffin Island by Renaud et al.² Renaud included me in the authorship, though that honour was never as close to my heart as that orange stain. With hesitation, I stuffed the sweater into the garbage bag.

What are the odds, I wondered, of finding the second Ross's Gull of my life near the Wise Place. I imagined Harris computing the standard deviation, dividing by that infernal eight, and laughing with glee. He would have enjoyed the irony and the host of factors that brought the little pink gull from Siberia in from the cold.

Acknowledgements

Thanks to Brent Honeker for backing up in time, and to Wayne Renaud and Gavin

Johnston for their comments and the fine memories. Anna Leighton kept me in line, as usual.

* The "Wise Slough", located beside the Wise family homestead, seven miles northeast of Luseland, was a wetland conservation project, initiated by my father, R.G. Finley, in the mid-sixties.

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URBAN-NESTING MERLINS AND COOPER'S HAWKS IN WEYBURN, SK

KELLY KOZIJ, 803 Coteau Avenue, Weyburn, SK S4H 0H1

Merlins

In the spring of 2002, I undertook to determine the numbers and nesting success of Merlins within the city limits of Weyburn, Saskatchewan. I had developed an interest in Merlins near Hendon, SK in the late 1980s. Following my relocation to Weyburn in the fall of 1997, I observed Merlins in various areas of the city, which piqued my curiosity.

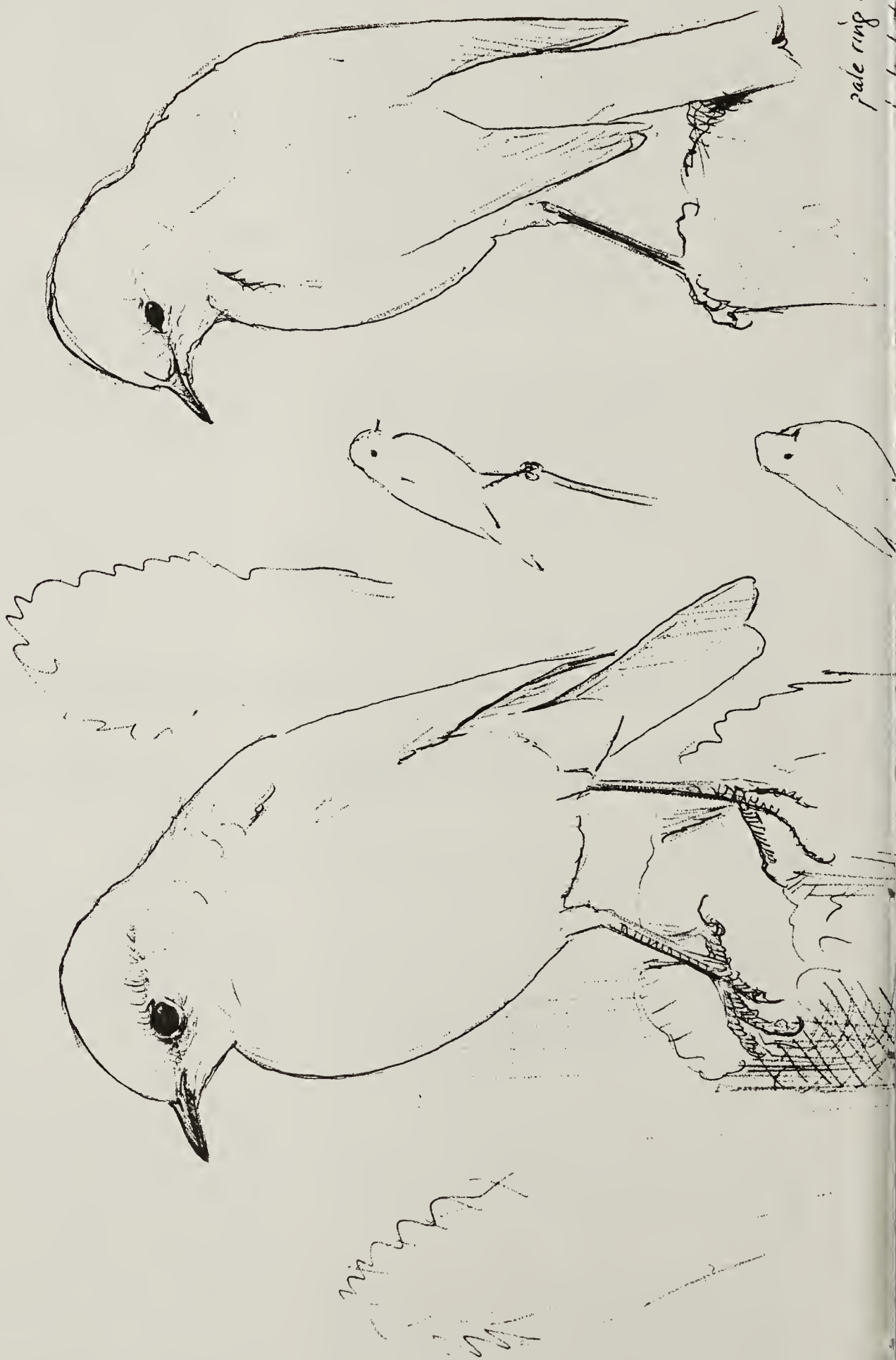
The majority of Merlin nests seemed to be concentrated within an area I describe as 'the older part of town'. This area is characterized by older buildings and more

mature stands of trees as opposed to the more recently developed 'newer parts of town', with younger, shorter and thinner trees.

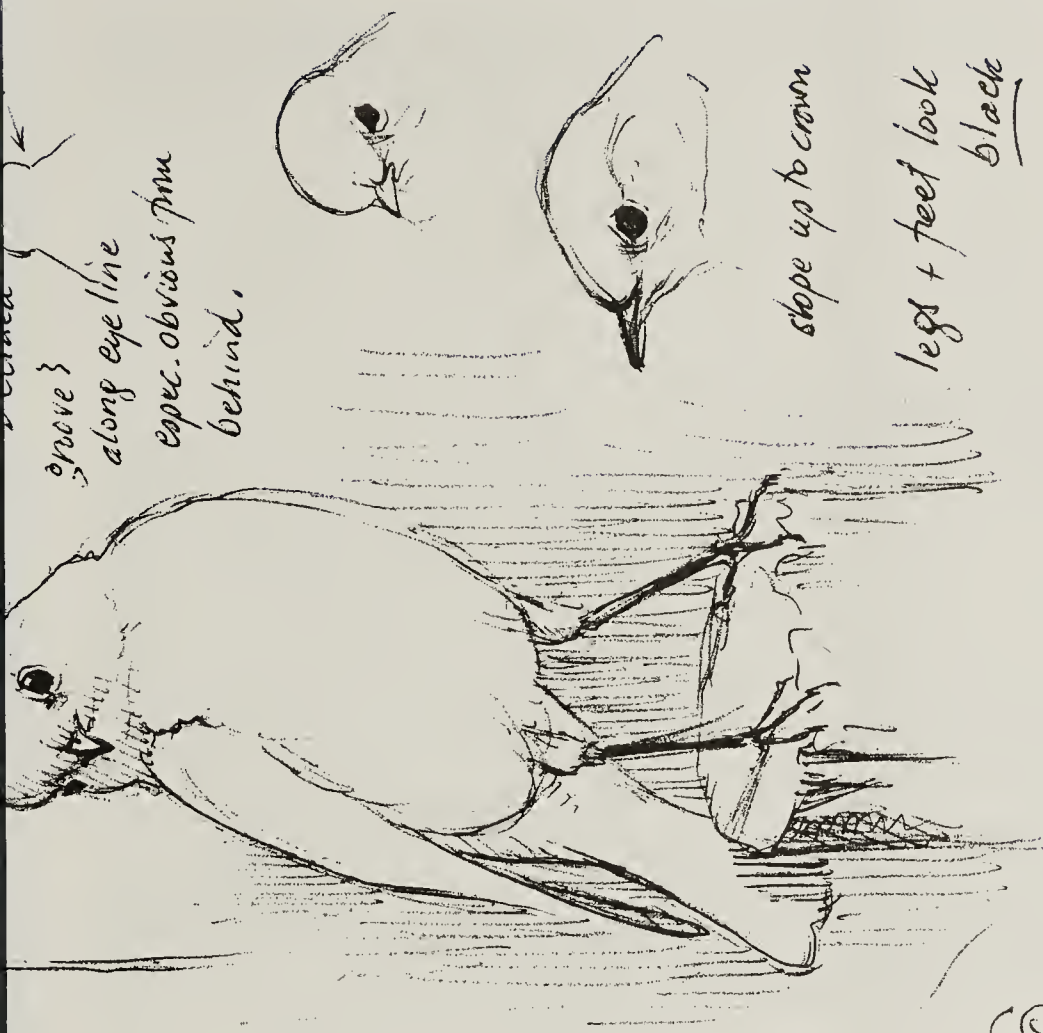
The trees in Weyburn are a mixture of deciduous and coniferous species planted by homeowners and the City Parks Department since the community was first formed at the end of the 19th century. An estimate of the ratio of the plantings on city-owned property is 25% coniferous and 75% deciduous trees (Claude Morin, City of Weyburn Parks Department, pers. comm.). No estimate is available for private property.

② Mar 15 gg 800pm Millers Dam

1st BLUEBIRDS [5 ♂ (blue) 1 ♀ (brownish)]



pale ring around eye,



above }
 along eye line
 espec. obvious from
 behind.

slope up to crown

legs + feet look
black



Paul Geraghty ©

Standing on fence post or wire, or cattail clump top,
 spying for insects. Swoop down every 5-10 secs stay down
 3-10 secs. usually a soft "zturrrup" as fly back up.

When among dark dun ground veg. again the surprising blue,
 but pale grey underbelly also stands out in contrast

The area of the city covered in this survey was approximately 5.0 km² and included residential, commercial and industrial areas, as well as parks (both natural and manmade). I focussed the greatest effort on 'the older part of town', a residential area of approximately 2.0 km² which was the primary search area, and two locations, the secondary search area, slightly outside the main residential area, which have similar tree cover and added 0.78 km² in total to the search area.

Beginning in early May, I cycled through the city, primarily where Merlins had been observed in previous years, listened for their vocalizations, and observed possible nest locations. Merlin vocalizations were easy to hear while cycling, and paved streets made travelling quick, easy and quiet. I located five nesting pairs within the primary search area and later found an unusually quiet sixth pair. There was no nesting activity noted in either of the two secondary search areas despite nesting activity in at least one previous year.

A seventh pair of Merlins was also observed within the primary study area but no active nest was located. This pair's activity seemed to be centred around a tall spruce where a remnant of an old crow nest was present. This pair stayed on the territory but the lack of a satisfactory nest site may have precluded nesting. This pair was 0.28 km and 0.48 km from each of the two nearest neighbouring nests.

Once the actual nest trees were pinpointed, I monitored activity around each individual nest area on almost a daily basis. The absence of the male and female for several days in succession at one nest site in late June led me to believe the nest had failed. Upon asking the property owner for permission, and climbing the spruce tree, I found the nest had shifted on its supporting branches, spilling the contents over the edge; fragments of broken eggshells and the carcass of one tiny young

(less than 1 week old) were found on the ground below the nest. This nest site had been abandoned between June 15 and June 22.

This development, along with young visible from the ground in two other nests, prompted me to seek permission to climb to the other five nests to determine the number of young that had hatched. On June 24, I found 21 young in the five nests, (three, four, four, five and five) (see photo on page 25). One nest with four young also contained an unhatched egg, while the other nest with four young was later found to have the partial remains of another chick on the ground below the nest.

A strong windstorm on June 29 blew three of five young from one nest, resulting in their death; on July 14, a fourth young fell from this nest and it too died. Seventeen young are believed to have fledged from these nests with thirteen of them banded for future identification.

Each pair of Merlins nested in an abandoned crow nest in a spruce tree, with the average nest height 11.1 m (range 9.8 to 14.5m). When plotted on a map, five of the nests were aligned in a crescent shape with the sixth located further to the east. The distance between adjacent nests in the crescent, as measured by GPS, ranged from 0.29 km to 0.70 km (average 0.49 km). The nest to the east averaged 0.88 km from each of the others (range 0.67 km to 1.16 km). Following the failure of one nest in June, I suspect but cannot confirm that the mated pair shifted their centre of activity 0.19 km to another area where the female continued to receive food from the male for approximately two weeks before they dispersed to an unknown area.

The nesting density of merlins, 6 pairs/2.78 km², in my study area of Weyburn during 2002 is comparable to the density in a Saskatoon study which, in 1989, reached 25.4 pairs/100 km².¹ As trees in 'the newer



Figure 2. Female Cooper's Hawk with squirrel prey, 2002

Kelly Kozij

parts of town' become more mature an additional 1.64 km² of potential nesting territory will be added to the area currently utilized by Weyburn Merlins.

Cooper's Hawks

In 2002, I also discovered two pairs of Cooper's Hawks nesting within Weyburn city limits.

A male Cooper's Hawk was seen almost daily from late April until May 6 when a female, still in juvenile plumage (see front cover), joined him. These two birds frequently perched in a back lane where they often were seen with various prey items including a robin and either ground or fox squirrels (I was unable to make a positive identification of the species of squirrel) (Fig. 2).

The nest, only 0.27 km from the nearest pair of Merlins, was 9.5 m high in a spruce tree immediately behind a house. It was discovered on May 20, and four eggs were present on June 22. One downy young was visible moving beneath the female on June

26, with four young in the nest on July 7. These young hawks were banded on July 10 and, after fledging, were seen in the vicinity of the nest throughout August. During this time they were fed by the adult hawks and, in one case in early evening, were feeding on a Hoary Bat. It is not known whether the bat was caught in flight or taken off its day roost.

These hawks became remarkably tolerant of human activity for a species I had always considered to be rather shy of people. During my initial observations, if the birds knew I was watching them, I had to make very slow deliberate moves, even at a distance, to avoid startling either bird into flight. Pedestrians or cyclists who acted as if the birds had not been seen could pass within eight to ten metres. The nest site was only 13.5 m from the centre of the adjacent street and its associated traffic, both vehicular and pedestrian. An adjoining street, 0.13 km south of the nest location, has an average traffic count of 2400 vehicles per day, while to the east, on another street 0.2 km away, 3000

vehicles pass by daily (Bob Kinash, City of Weyburn engineer, pers. comm.).

A second pair of nesting Cooper's Hawks was found with three young on July 21, on the grounds surrounding the Souris Valley Hospital, 2.35 km from the previously mentioned nest. These two nests are the second and third Cooper's Hawk nests found in Weyburn, the first being found in 2000, also on the Souris Valley property (Martin Bailey, pers. comm.). These three nests are the only urban nesting Cooper's Hawks that I am aware of in Saskatchewan. There was some speculation about Cooper's Hawks nesting within Wascana Park in Regina in 2001 where fledged young were observed and attacking behaviour noted. And in 2002, two pairs stayed in Regina into late spring, leading to speculation that nesting would occur but apparently they later left (Bob Luterbach, pers. comm.).

Cooper's Hawks may be adapting to urban environments as they have been nesting for several years at Oak Park in central Minot, North Dakota, and also within Victoria, BC. Last year Medicine Hat, AB had its first nest ever at Police Point on the edge of a busy golf course (Bob Luterbach, pers. comm.).

Acknowledgments

I would like to thank those individuals whose interest and patience contributed to this survey: Martin Bailey, Mark Brigham, Faye Ferner, Bob Luterbach, Lynn Oliphant, SERM Weyburn staff, and each of the homeowners who allowed me access to their property. C. Stuart Houston provided advice and information and bands for the young birds, and encouraged me to write this report.

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PRAIRIE WARBLER IN SASKATOON – THE SECOND RECORD FOR SASKATCHEWAN

ROBERT WAPPLE, 740 4th Street East, Saskatoon, SK S7H 1K2

Around 1600h on Friday, October 18, 2002, I saw a smallish bird flitting among the lower branches of the aspens just outside my office window at Innovation Place in Saskatoon. At first, I assumed it was a Yellow-rumped Warbler but noticed that it was quite bright yellow and had some black streaking on its sides, a large amount of white on the outer edges of the tail, and no yellow on the rump. On closer inspection, I noted that the bird had an olive green back and wings, whitish undertail coverts, bright yellow throat, chest, and

facial markings. Most striking were the distinct rows of bold black streaks down each flank. It was active as it hovered to pluck insects off of the undersides of the leaves still on the trees.

Realizing that I was looking at something unfamiliar and unusual, I started to eliminate other possible yellowish, streaked warblers. The bright yellow front and bold streaking on the sides suggested a Magnolia Warbler but the tail markings ruled it out. The indistinct olive-green wingbars ruled out

Townsend's, Black-throated Green, Blackburnian, Pine and Blackpoll. It couldn't be a Palm Warbler because of the white under the tail, and the lack of a white wing patch eliminated Cape May. Prairie Warbler came to mind from my vague recollection of them from field guides, but I was not sure. The bird allowed me to view it through the window for about five minutes from two to four meters as it foraged, and I got a clear view of the bold bright yellow football-shaped eye-ring, which extended above and below the eye in wide arcs, and a subtle dark moustache streak. I also noted black legs and olive green, unstreaked nape. While searching for food, the bird flicked its tail vigorously like a Palm Warbler. After about 10 minutes the bird disappeared but when I returned 15 minutes later with binoculars, the warbler was foraging in aspens and I had a good look at it for about 15 seconds from a distance of five meters through 8x30 binoculars. All of the above-mentioned field marks were again noted.

At home I consulted *Warblers of the Americas*, as well as the National Geographic Society *Field Guide to the Birds of North America*, *The Sibley Guide to Birds*, and Peterson's *A Field Guide to Birds East of the Rockies*.^{1,2,3,5} Although none of these showed the whitish undertail coverts, all the other field marks mentioned in the texts and shown in the illustrations were consistent with this species.

When my wife, Megan, and I returned at 1730h, we found the bird in the aspens again, and got excellent views from as close as four meters. Once, I flushed it from about a meter away. It flew to a nearby aspen and gave several liquid-sounding, quite loud call notes, and then flew into a parking lot area edged with shrubs and trees. Thinking we had pestered the bird enough, we left the area.

Alan Smith, my brother Guy and I arrived just after sunrise at 0800h on Saturday, 19 October, and after a 10-minute search, found the bird feeding in some trees and shrubs

behind my office building. All three of us had excellent views from as close as four meters as it fed in a Russian Olive (*Elaeagnus angustifolia*), seemingly oblivious to us. Several photographs were taken (see back cover). We alerted the local rare bird alert hotline and within the hour many people had arrived to see the bird and confirm its identity, including Frank Roy, Phil Taylor, Stuart and Mary Houston, Stan Shadick, and Harvey Lane. Many others saw it throughout the morning and the following day. I looked for it a few times early in the following week but did not see it again until Thursday, 24 October, when I saw what I assumed to be the same bird for about two minutes from my office window at around 1600h. It flew off and was not seen again after that.

On Tuesday, 22 October, while Alan Smith and I unsuccessfully looked for the bird, we inspected the undersides of the leaves of the Russian Olive from which the warbler was apparently finding food and many of them had green aphids that appeared to be dormant. The aphids did not appear to be on any of the other species of tree in the area.

Judging from the descriptions of the bird and the numerous illustrations in the guides mentioned above and Pyle's *Birds of North America*, I believe the bird was a first year male.⁴ The Prairie Warbler normally occurs in open pine woods, scrub, abandoned fields and mangrove swamps in southeastern North America⁵. There is one previous Saskatchewan record, a single bird seen and heard by Lawrence Beckie at his farmyard near Bladworth on 8 June 1995.⁶

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LOGGERHEAD SHRIKE BANDING ON THE PRAIRIES

C. STUART HOUSTON, 863 University Drive, Saskatoon, SK S7N 0J8,
KEN D. DE SMET, Wildlife and Ecosystem Protection Branch, 200 Saulteaux Crescent,
Winnipeg, MB R3J 3W3, and DOUGLAS M. COLLISTER, Ursus Ecosystem
Management Ltd., 3426 Lane Crescent SW, Calgary, AB T3E 5X2

The Loggerhead Shrike was labelled by COSEWIC as threatened throughout Canada in 1986 and this designation remains in place for western Canada. In eastern Canada the status was raised to endangered in 2000 (COSEWIC 2001).² Since this was one of the species of special interest to the late Wayne C. Harris, and since knowledge of migration routes and winter quarters can be important for any threatened species, we reviewed the banding records through 2001 for the three prairie provinces.

Wayne banded his first 134 shrikes as a subpermittee, and the next 1666 under his full permit. In 1990 alone, he located 241 Loggerhead Shrike nests, which contained a total of 879 young, about half of which were old enough to band.³ Although he quit banding shrikes after the 1991 season, he was by far the most important bander of Loggerhead Shrikes in Saskatchewan and remains in second place for shrikes banded on the prairies (Table 1).

We have figures for almost all the Loggerhead Shrikes (285) banded by early Saskatchewan banders through to the end of 1954, but we do not have exact numbers of Loggerhead Shrikes banded in Alberta and Manitoba before the banding records were computerized in 1955. Another 8115 Loggerhead Shrikes were banded on the prairies between 1955 and 2000, most by Wayne Harris and the second and third authors of this paper.

From the early banding of 285 Loggerhead Shrikes in Saskatchewan and an unknown number in the two adjoining provinces, there were five recoveries of Saskatchewan birds and two of Alberta birds (Table 1). Since 1955 there have been 11 recoveries of dead birds and one trapping and release of a live bird (in Texas on 5 March!) from the 8115 individuals banded. This is an encounter rate of only 0.15%, less than one-tenth of the Saskatchewan reporting rate prior to 1954. This is part of a general trend observed for

most species banded in Saskatchewan, whereby the novelty/curiosity factor on the part of band finders resulted in a higher reporting rate in earlier years. In addition, before 1955, when the encounter rate for Saskatchewan shrikes was 1.75%, it was more common for people to shoot shrikes, in part because the shrike is disliked for its habit of killing small birds and then impaling them on thorns and barbed wire fences.

To learn the migration pathways and wintering grounds of prairie shrikes, we have combined the recoveries of all birds banded both before and after 1955. The geographic distribution of wintering birds is evident from the list of states: Texas, 8, all in late fall, winter and early spring; Oklahoma, 2 (in mid-winter); and Kansas, 1 (January). Two reported from Missouri in September and June, were evidently in migration. In addition, one flightless young banded in extreme southwestern Manitoba hit an object in extreme southeastern Saskatchewan, only about 10 km west of where it was banded, but sufficient to place the recovery in a different province. Three were found in the same province where banded, in August of the same year, within less than two months after banding. One has less confidence in the other two from the same province, one because of an inexact date, and one because it was reported as "band only."

Finally, the Alberta and Manitoba Loggerhead Shrike projects involved checking into the rates at which surviving adults and juveniles, many with a colour band as well as an aluminum band, were detected in subsequent years within the region where they were first banded. Collister and De Smet (1997), based on results from 1987 to 1994, found that rates of return in the year following banding were 3 of 249 (1.2%) for juveniles and 31 of 96 (32%) of adults in southeastern Alberta and 27 of 3716 (0.85%) juveniles and 22 of 140 (16%) for adults in southwestern

Manitoba.¹ Ninety-five per cent of adults returned within 4.7 km of their previous nest site, with movements up to 29 km. Surprisingly, Loggerhead Shrike territories were more often re-occupied by new adults than by the previous year's occupants.

Note: Early Saskatchewan Loggerhead Shrike banders, who banded 123 shrikes, but had no recoveries, were: Atkinson, 1; Bard, 5; Baynton, 2; Blakeley, 5; Briggs, 7; JR Carter, 1; Gold, 4; Hammond, 6; Harper, 13; Lang, 20; Lloyd, 11; Myers, 10; Street, 18; Wotherspoon, 20. Twenty additional early banders banded no Loggerhead Shrikes.

Post-1955 banders, who banded 355 shrikes, without any recoveries, were: in Alberta, G. Booth, 3; G.R. Ebel, 33; R.E. Gehlert, 5; C.G. Hampson, 9; Edgar T. Jones, 64; JK Lowther, 2; AF Oeming, 2; E.Pletz, 9; D. Prescott, 39; J.D. Rising, 1; J.K. Schmutz, 69; H.E. Smith, 6; D.W.A. Whitfield, 1; in Saskatchewan, R.E. Gehlert, 9; B. Johns, 17; M.R. Lein, 5; B Matthews, 3; J.B. Millar, 5; S.G. Sealy, 10; A.R. Smith, 40; D.W.A. Whitfield, 19; in Manitoba: D.R.M. Hatch, 1.

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Distant recoveries of Loggerhead Shrikes banded on prairies

Through 1954	Number banded			Recovery data			Banding data			How killed			Month Day Year			State			Lat Long		
Fredeen		16	SK	523	1064	Aug	21	1938	*	Found dead			Dec	20	1938	Oklahoma			344	972	
Hedlin		47	SK	513	1053	Jun	18	1938		Band only			May	6	1939	Sask			491	1012	
Horning		n/a	AB	500	1130	Jun	25	1933		Shot			Dec	22	1933	Texas			311	973	
Horning			AB	500	1130	Jul	16	1933		Shot			Oct	6	1934	Texas			304	972	
Loewen		35	SK	523	1064	Jun	23	1938		Weather			Apr	8	1942	Texas			333	975	
Matthews		35	SK	532	1040	Jun	27	1950		Found dead			Mar	24	1955	Sask			530	1050	
Siemens		29	SK	523	1064	Jul	4	1931		Found dead			Sep	23	1931	Missouri			380	931	
14 other banders		123	SK																		
Total pre-1955		285																			
After 1955																					
Collister		1616	AB	505	1105	Jun	11	1992	*	Retrapped			Mar	5	1995	Texas			311	974	
De Smet		4206	MB	491	1011	Jun	13	1990		Found dead			Aug	27	1991	Texas			331	981	
De Smet			MB	493	1011	Jun	20	1990		Found dead			Jan	11	1991	Kansas			384	970	
De Smet			MB	500	970	Jun	26	1992		Found dead			Aug	13	1992	Manitoba			495	970	
De Smet			MB	491	1011	Jun	20	1994		Hit window			Jan	3	1995	Sask			491	1012	
Harrissub		134	SK	512	1051	Jul	23	1972		Shot			Nov	22	1972	Texas			293	942	
Harris		1666	SK	502	1061	Jun	22	1987		Caught by dog			Jan	8	1988	Texas			284	970	
Harris			SK	492	1093	Jun	25	1988		Caught by dog			Jun	6	1993	Missouri			373	941	
Harris			SK	494	1082	Jun	27	1988		Found dead			Jan	30	1989	Oklahoma			344	972	
Harris			SK	512	1051	Jul	8	1990		Miscellaneous			Apr		1992	Texas			265	985	
Harris			SK	512	1051	Jun	25	1991		Dead on hiway			Aug	8	1991	Sask			512	1051	
Houston		138	SK	512	1060	Jul	21	1968		Found dead			Aug	21	1968	Sask			512	1061	
20 other banders		355																			
Total post-1955		8115																			

* denotes adult banded; all others were flightless young

Number of Loggerhead Shrikes banded by that bander is given with first recovery

LICHEN INVENTORY OF THE CROOKED LAKE FEN NATURE SANCTUARY

BERNARD DE VRIES, 29 Hogan Place, White City, Saskatchewan, SK S4L 1C1

Introduction

The Crooked Lake Fen Nature Sanctuary was acquired by Nature Saskatchewan in 1988. It is an excellent example of a slope seepage fen, an uncommon habitat in Saskatchewan. The nature sanctuary protects rare vegetation and attracts birds in migration.⁸ The fen was recognized by listing it under the International Biological Programs as the I.B.P. Area 71-3.² A detailed survey of the Crooked Lake Fen avifauna and vascular plant vegetation was done in 1995, however, no documentation of the lichens was done at that time.⁶ To fill in this gap, Nature Saskatchewan suggested the need for a lichen survey of the nature sanctuary. The present paper presents the results of this survey.

The Crooked Lake Fen Sanctuary is about 4.5 km west of Crooked Lake at the junction of Highway 47 from Grenfell north to Melville, and Highway 247 east to Crooked Lake in the Qu'Appelle Valley. The sanctuary lies within the NW 1/4 section of 19 - 19 - 6 - W2, in the Rural Municipality of Grayson # 148, and is smaller than 20 hectares in total area.^{6,8}

The sanctuary shares a large number of arboreal lichen species with the adjoining, heavily-wooded Qu'Appelle Valley coulees and upland mixed deciduous tree stands. This is not surprising, considering the climatic and physiographic similarity and continuity between the Crooked Lake Fen hardwood forest and these areas.

The area falls within the Melville Plain landscape area of the Aspen Parkland Ecoregion in the Prairie Ecozone.¹ The ecological land classification units include a hardwood forest consisting mainly of Manitoba Maple (*Acer negundo* var. *interius*) (Fig.1), Balsam Poplar (*Populus balsamifera*) and Trembling Aspen (*Populus tremuloides*) intermixed with shrubs such as Choke Cherry (*Prunus virginiana*), Round-leaved Hawthorn (*Crataegus rotundifolia*), Saskatoon (*Amelanchier alnifolia*), and a small grassland remnant mostly surrounded by Trembling Aspen and tall shrubs (Fig. 2). Numerous wetlands with a typical wetland or marsh flora, scattered River Birch (*Betula occidentalis*) and willow (*Salix* species) make up the remainder of the sanctuary.

Methodology

Field work was done on May 13 and June 7, 2002. The existing ecological land classification was used to facilitate finding prospective lichen sites.⁶ Ten of the 20 ecological land classifications units were lichenologically investigated (Map 1). They are *Hardwood Forest* unit # 1; *Grassland* unit # 2; *Trembling Aspen Bluff* unit # 3; *Wet Marsh* unit # 5 with some River Birch; *Dry Marsh Edge* unit # 7; *Wet Meadow* unit # 8 with dominant River Birch; *Wet Drainage Corridor* unit # 9 with River Birch and Willow (Fig. 3); *River Birch Stand* unit # 14; *Manitoba Maple Forest* unit # 16 and *Tall Shrub* unit # 17. The remaining units (# 4, 6, 10-13, 15, 18-20), are marsh, wet

Map 1. Ecological Land Classification (ECL) Units

Hwy 247

Hwy 47

Key to ECL units

- Unit # 1. Hardwood Forest.
- Unit # 2. Grassland.
- Unit # 3. Trembling Aspen Bluff.
- Unit # 4. Wet Marsh. A complex wet area mainly with grasses and sedges.
- Unit # 5. Wet Marsh. Similar to the above but with some River Birch.
- Unit # 6. Damp Marsh.
- Unit # 7. Dry Marsh Edge.
- Unit # 8. Wet Meadow. Dominant tree is River Birch.
- Unit # 9. Wet Drainage Corridor.
- Unit # 10. Wet Meadow.
- Unit # 11. Wet Meadow.
- Unit # 12. Stream/Wet Marsh.
- Unit # 13. Wet Meadow.
- Unit # 14. River Birch stand.
- Unit # 15. Brome Grass Meadow.
- Unit # 16. Manitoba Maple Forest.
- Unit # 17. Tall Shrub.
- Unit # 18. Wet *Carex* Fen.
- Unit # 19. Wet *Typha* Marsh.
- Unit # 20. Wet *Phragmites* Marsh.

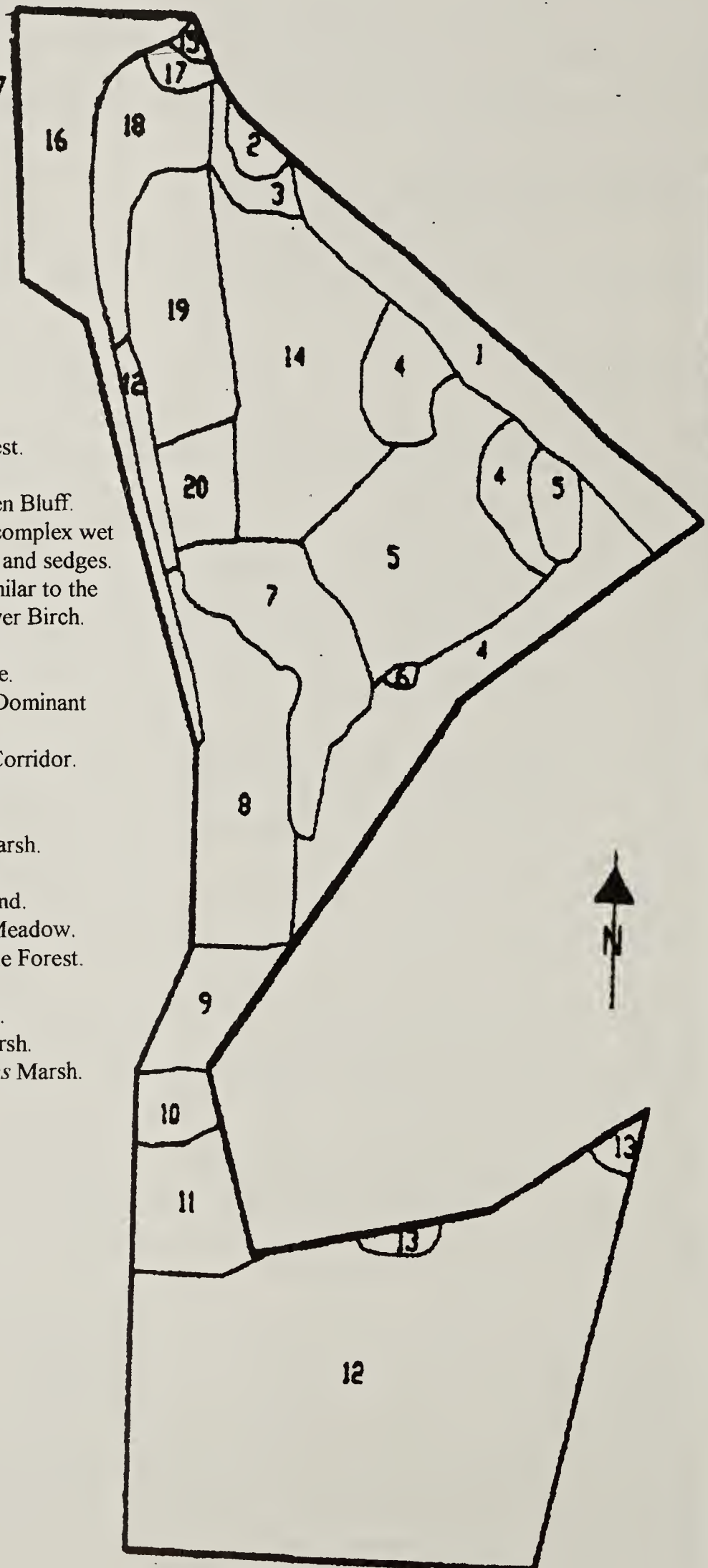




Figure 1. Manitoba Maple Forest (ELC Unit # 16)

Bernard de Vries

meadow, and stream/wet marsh mainly vegetated with grasses such as Reed Grass (*Calamagrostis* species) and Common Reed Grass (*Phragmites communis*), Common Cattail (*Typha latifolia*), and sedges (*Carex* species). These areas are prone to periodic flooding, with scanty tree and shrub vegetation—conditions not well suited to lichen growth.

A random survey was done to select trees and tall shrubs representative of their respective ecological land classification and substratum. The lichen survey of the grassland remnant was done by a careful search for terrestrial lichens within a grid pattern, rather than a random survey, as grassland lichens are generally very small and ground hugging, thus easily overlooked among grasses.

The investigation of tree lichens was restricted to species appearing on the lower part of trunks, up to a height of 2.50 m above ground. However, in a few cases lichens were collected from large branches within this range. Lichens on small twigs, branches or on trunks above 2.50 m have

been omitted from the investigation. This method allowed for more homogeneous and comparable environmental conditions. However, tree lichens were at times collected as ground litter, and regarded as wind-blow from the adjacent hardwood stands.

Standard methods were used for identification, including technical key manuals, chemical spot testing with 10% KOH aqueous solution or bleach (C) to observe different colour reactions with chemicals in the lichen body (*thallus*), and occasionally dissecting of fruiting bodies (*apothecia*) to observe spore morphology and number under high magnification.³

Lichen flora

The known lichen flora of Crooked Lake Fen consists of 22 species within 13 genera. The small number of species is not surprising as the areas investigated are small, but the lichens made up for the small number of species by their quantity and dispersal throughout the nature preserve, often showing colourful patches on host trees especially some *Xanthoria* species

(Sunburst lichens). No new additions to the known Saskatchewan lichen flora were found (de Vries, *Lichens of Saskatchewan*, in preparation).

The lichens recorded are Pan Temperate in distribution and belong to the Aspen Prairie Ecoregion of the Prairie Ecozone.³ They are comparable to lichens found on wooded slopes and in coulees, or on grassland slopes in the Qu'Appelle Valley, which also falls within this Ecoregion.

Of special interest was *Evernia mesomorpha* (Boreal oakmoss lichen) and *Ramalina* cfr. *dilacerata* (Punctured ramalina) associated with *Physcia adscendens* (Hooded rosette lichen), *Physcia stellaris* (Star rosette lichen), *Physconia detersa* (Bottlebrush frost lichen). These species were growing on a deciduous twig found as ground litter at the base of a small knoll in grassland unit #2 and speculated to have been blown in from adjacent hardwood stands in units #1, 3 and 17. The last three species occur on a variety of trees in these stands; however, we failed to locate *Evernia mesomorpha* and *Ramalina* cfr. *dilacerata* in these units or other areas investigated in the nature sanctuary.

Evernia mesomorpha and *Ramalina* cfr. *dilacerata* are unusual species in the Nature Sanctuary, and although *Evernia mesomorpha* is a common species in the boreal forest on deciduous as well as on coniferous trees, and previously was found in the Qu'Appelle Valley on an old weathered wooden fence (de Vries, unpublished), the species remains uncommon in the Aspen Parkland Prairie Ecoregion. *Ramalina* cfr. *dilacerata* which is a typical boreal species is really not expected this far south, and could be considered as rare. How this species arrived in the nature sanctuary remains a mystery.

The majority of lichens at Crooked Lake Fen are tree lichens (*arboreal*). Mature

Manitoba Maple, American Elm (*Ulmus americana*) and Balsam Poplar in the hardwood forest stands of units #1, 3, and 16 show the most diversified lichen flora with *Caloplaca holocarpa* (Firedot lichen), *Candelariella vitellina* (Common goldspeck lichen), *Physcia adscendens* (Hooded rosette lichen), *Physcia stellaris* (Star rosette lichen), *Xanthoria fallax* (Hooded sunburst lichen), and *Xanthoria polycarpa* (Pin-cushion sunburst lichen) as common and often showy species well dispersed throughout the sanctuary. These older trees provide a greater variety of microhabitats, allowing many different types of lichens to colonize. Their rough and stable bark has the ability to absorb and retain moisture, besides having organic and chemical compounds necessary for lichen metabolism. In contrast, Trembling Aspen and River Birch have a relative smooth bark that cannot absorb or retain sufficient moisture and support lichen species which have more or less adapted to such substrate. Less common arboreal lichens in the hardwood units are: *Candelaria concolor* (Lemon lichen), *Flavopunctelia flaventior* (Speckled greenshield), *Parmelia sulcata* (Hammered shield lichen), and *Xanthoria candelaria* (Shrubby sunburst lichen).

Terrestrial lichens occur only in the grassland on light mineral soil mostly under dead grass-litter. This is somewhat unusual, as these lichens generally prefer areas free from competitive vegetation. *Cladonia* (*Cladonia* lichen) was the dominant genus with such common and typical grassland species as *Cladonia pocillum* (Rosette pixie-cup) and *Cladonia pyxidata* (Pebbled pixie-cup). *Cladina mitis* (Green reindeer lichen) a more typically boreal species occurs in the grassland area, and sporadically in the Prairie Ecozone on sandy or humus soils. Not surprisingly *Peltigera rufescens* (Field dog-lichen), a common lichen on dry sandy soil in open fields and roadsides, was found twice in association with Prairie Selaginella (*Selaginella densa*) in this grassland unit.



Figure 2. Grassland (ECL Unit # 2.)

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Annotated list of lichens

The annotated list summarizes the ecological land classification unit, substrates, and occurrence. The scientific names and authors follow Esslinger, while vernacular names are those of Brodo *et al.*, and Goward ^{4,3,7}

Some lichens were field identified; voucher specimens of collected material are deposited in the author's private herbarium.

Caloplaca (Firedot lichens)

Caloplaca cerina (Ehrh. *ex* Hedwig) Th. Fr. (Gray-rimmed firedot lichen). An infrequent bark dwelling lichen on Manitoba Maple and at times on Balsam Poplar in units # 1 & 16, often among *Caloplaca holocarpa*.

Caloplaca holocarpa (Hoffm. *ex* Ach.) Wade (Firedot lichen). A common lichen found on rough bark and old wood of many trees and occasionally on tall shrubs in units # 1, 3, 5, 14, 16, 17.

Candelaria (Candleflame lichens)

Candelaria concolor (Dickson) Stein

(Lemon lichen). Infrequent on smooth bark of Choke Cherry, Round-leaved Hawthorn and River Birch in units # 1, 14, & 17. Also occasionally occurring on rough bark of Manitoba Maple in units # 1 & 16.

Candelariella (Goldspeck lichens)

Candelariella vitellina (Hoffm.) Th. Fr. (Common goldspeck lichen). Common locally on rough bark of Manitoba Maple in units # 1 & 16. Infrequent on rough bark of Balsam Poplar in unit # 1.

Cladina (Reindeer Lichens)

Cladina mitis (Sandst.) Hustich (Green reindeer lichen). Unusual, and found once in Grassland unit #2 on light soil with Prairie Selaginella.

Cladonia (Cladonia lichens)

Cladonia chlorophaea (Floerke *ex* Sommerf.) Sprengel (Mealy pixie-cup). Infrequent in Grassland unit # 2 on light soil. Mainly under grass litter and with other *Cladonia* species.

Cladonia decorticata (Floerke) Sprengel (Perlatolic pebblehorn). Infrequent in

Grassland unit #2 on light soil with *Prairie Selaginella* and other *Cladonia* species.

Cladonia pocillum (Ach.) Grognot (Rosette pixie-cup). Common in Grassland unit #2 on light soil with *Cladonia chlorophaea* and *Cladonia pyxidata* under grass litter.

Cladonia pyxidata (L.) Hoffm. (Pebbled pixie-cup). Common in Grassland unit #2 on light soil with *Cladonia chlorophaea*, *Cladonia pocillum* and *Prairie Selaginella*.

Cladonia rei Schaerer (Wand lichen). Uncommon in Grassland unit #2 on light soil under grass litter with other *Cladonia* species.

Evernia (Oakmoss lichens)

Evernia mesomorpha Nyl. (Boreal oakmoss lichen). Uncommon, and found only once, on a small twig as ground litter with *Physcia adscendens*, *Physcia stellaris*, *Physconia detersa*, and *Ramalina* cfr. *dilacerata* in Grassland unit #2.

Flavopunctelia (Speckled greenshield lichen)

Flavopunctelia flaventior (Stirton) Hale (Speckled greenshield). Uncommon on rough bark of mature Green Ash (*Fraxinus pennsylvanica*) in unit #1.

Parmelia (Shield lichens)

Parmelia sulcata Taylor (Hammered shield lichen). Uncommon on smooth bark of Choke Cherry in Hardwood Forest unit #1 and Tall Shrub unit #17.

Peltigera (Pelt lichens)

Peltigera rufescens (Weiss.) Humb. (Field dog-lichen). Uncommon, and found twice on soil among grasses and *Prairie Selaginella* in Grassland unit #2.

Physcia (Rosette lichens)

Physcia adscendens (Fr.) H. Oliver (Hooded rosette lichen). Common on rough bark of Green Ash and Manitoba Maple,

and infrequent on smooth bark of Choke Cherry and Round-leaved Hawthorn in units #1 & 17. Also occurring with *Evernia mesomorpha*, *Physcia stellaris*, *Physconia detersa*, and *Ramalina* cfr. *dilacerata* on a twig as ground litter in Grassland unit #2.

Physcia aipolia (Erh. ex Humb.) Fuernr var. *aipolia* ((Hoary rosette lichen). Quite common on rough bark of Manitoba Maple, American Elm and Balsam Poplar in units #1, 3, 16.

Physcia stellaris (L.) Nyl. (Star rosette lichen). Frequent on rough bark of mature Manitoba Maple, Balsam Poplar and Green Ash, and infrequent on smooth bark of River Birch; Choke Cherry, Round leaved Hawthorn and some dead standing tall shrubs or trees in units #1, 3, 5, 8, 9, 14, 16, & 17. Also found with *Evernia mesomorpha*, *Physcia adscendens*, *Physconia detersa* and *Ramalina* cfr. *dilacerata* on a small twig as ground litter in Grassland unit #2.

Physconia (Frost lichen)

Physconia detersa (Nyl.) Poelt (Bottlebrush frost lichen). Infrequent on rough bark of Manitoba Maple and Green Ash, and on smooth bark of Choke Cherry and Round leaved Hawthorn in units #16 & 17. Also found with *Evernia mesomorpha*, *Physcia adscendens*, *Physcia stellaris* and *Ramalina* cfr. *dilacerata* on a small twig as ground litter in Grassland unit #2.

Ramalina (Ramalina lichens)

Ramalina cfr. *dilacerata* (Hoffm.) Hoffm. (Punctured ramalina). Rare. Found once as an immature specimen on a small twig as ground litter in Grassland unit #2 with *Evernia mesomorpha*, *Physcia adscendens*, *Physcia stellaris* and *Physconia detersa*.

Xanthoria (Sunbust lichens)

Xanthoria candelaria (L.) Th. Fr. (Shrubby sunburst lichen). Infrequent on rough bark and old branches of mature Manitoba Maple in unit #16.



Figure 3. Wet prairie corridor with Hoary Willow and River Birch (ECL # 9)

Bernard de Vries

Xanthoria fallax (Hepp.) Arnold var. *fallax* (Hooded sunburst lichen). Common on rough bark of various trees and relatively frequent on smooth bark of tall shrubs in units # 1, 3, 5, 9, 14, 16, & 17.

Xanthoria polycarpa (Hoffm.) Rieber (Pin-cushion sunburst lichen). Common on a variety of substrates, mainly on rough bark, old branches and twigs of trees and smooth bark of shrubs in units # 1, 3, 8, 14, 16, & 17. Also found growing on a small rock in grassland Unit # 2, and as a small specimen on a willow in unit # 7.

Discussion

In the nature sanctuary, the age of trees tends to increase from the younger trees on the periphery to the older trees in the centre of larger forest stands. A decline in lichen diversity in the centre of the stands could partially be explained by the lower light intensity under a closed canopy of mature trees. The absence of terrestrial lichens in the hardwood vegetation units could partially be due to a dense shrub and herb understory which is a deterrent to terrestrial

lichen development. As trees die, they create openings and habitat for renewed lichen growth.

No previous documentation of the lichens has been done for Crooked Lake Fen. This survey presents a first, augmenting our present knowledge of the vascular flora in this Nature Sanctuary by adding 22 lichen species including two species which being unusual (*Evernia mesomorpha*) or even rare (*Ramalina* cfr. *dilacerata*), add value to this unique area. Although some lichen species might have been overlooked, the present survey gives a fair picture of species existent in the Sanctuary.

The proximity of arable land east and west of the Nature Sanctuary could pose a problem due to chemical spray drift. Because a survey of lichens in the marginal zone could give an indication of air quality, especially when compared to lichens in the same region, attention was given to the possibility of air pollutants affecting the lichen flora, especially on marginal trees in the nature sanctuary and adjoining areas.

Lichens do not have a protective cuticle or roots; they absorb dissolved nutrients as well as air borne pollutants directly from the air or rainwater and are extremely sensitive to atmospheric pollution. However, insofar as we were able to observe, there was no visible damage to lichens from pollution in the nature sanctuary or in the adjoining areas. The impending changing climatic patterns causing a dramatic shifting of ecosystems could be a more imminent danger.

Acknowledgements

We are much indebted to SaskEnergy, Regina for generously funding the Crooked Lake Fen lichen survey. Thanks are also due to Nature Saskatchewan for initiating this lichen study. Without this support this survey would not be possible. Thanks are also due to Diether Peschken for helpful suggestions on the first draft of this paper. Last but not least thanks are due to my wife Irma, who braved mosquitoes and ticks in the name of science and whose keen eye added many a lichen to the list.

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INSECTS

GRASSHOPPERS IN COYOTE SCATS

THIJS KUIKEN, Department of Virology, Erasmus Medical Centre, P.O. Box 1738, 3000 DR Rotterdam, The Netherlands, ANNA LEIGHTON, 328 Saskatchewan Crescent West, Saskatoon, SK S7M 0A4 and DAN JOHNSON, Lethbridge Research Centre, and University of Lethbridge, Lethbridge, AB T1K 3M4, dan.johnson@uleth.ca

Grasshoppers were unusually abundant in the Prairie Provinces in the late summer of 2001 and 2002. In the Saskatoon area, the most common species found in August 2002 was the two-striped grasshopper (*Melanoplus bivittatus*) (Fig. 1), and, over much of the area, grasshopper surveys indicated that densities ranged from 13 to 24 per m² (Scott Hartley, pers. comm., 26 November 2002).

On 8 September 2002, the first and second authors, TK and AL, visited Crawford Lake, which lies 30 km ESE of Saskatoon, and encountered many grasshoppers, mostly two-striped, on the vegetated low areas at the east end of the lake. Grasshoppers were particularly abundant in patches of sow thistle (*Sonchus* species), some of which were eaten down to bare stalks. We later estimated that there were

10 to 15 grasshoppers per m². Grasshoppers netted in the sow thistle patches a week later were identified as two-striped, Packard's (*Melanoplus packardii*), red-legged (*Melanoplus femurrubrum*) and lesser migratory (*Melanoplus sanguinipes*) grasshoppers.

Along a game trail across the mud flats at Crawford Lake, eight intact Coyote scats were found that, when broken apart, appeared to consist primarily of grasshopper remains (Fig. 2). Dissecting one of these scats later (Fig. 3), we found that it consisted solely of grasshopper remains, many of which were large enough to identify. The remains belonged to adult male and female two-striped grasshoppers, with evidence of one red-legged grasshopper and one lesser migratory grasshopper. The 33 whole heads and 2 half heads indicated that

at least 34 grasshoppers were present in the scat. Other grasshopper parts recognized were the drum-stick shaped femur segments with knee joint (41), femur segments (38), hind leg tibia segments (63), other legs (84), wings (84) and broken body segments (63). (Figure 4).

Four days later, another 18 Coyote scats, consisting primarily of grasshopper parts, were found by AL and

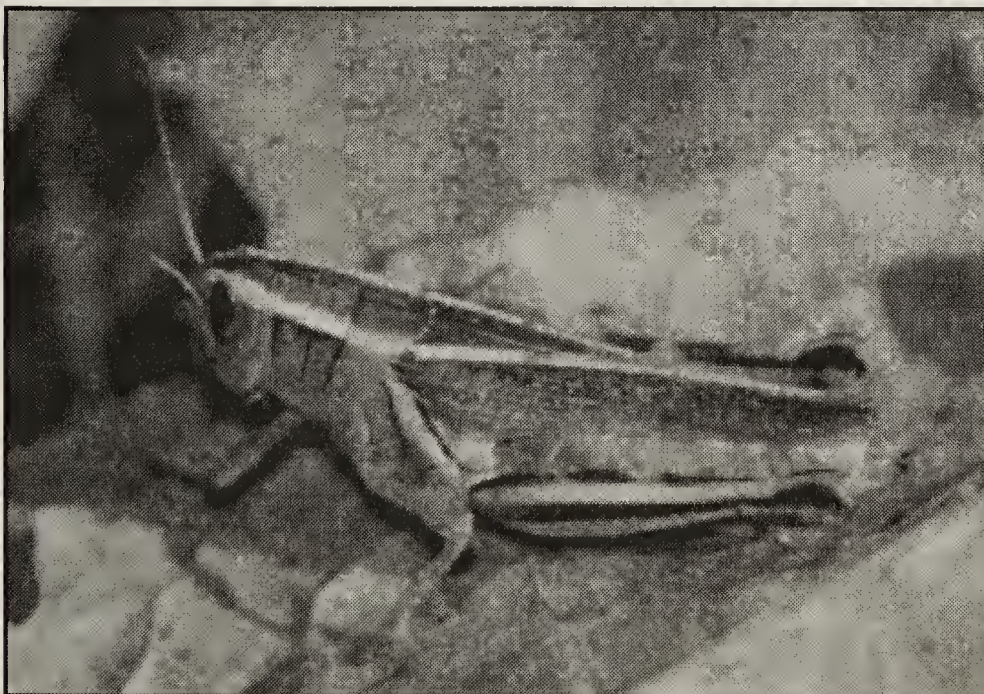


Figure 1. Two-striped grasshopper (adult female)

Dan Johnson



Figure 2. Grasshopper parts in coyote scat broken apart at Crawford Lake on September 8, 2002.
Anna Leighton

Bonnie Lawrence along a 300 m stretch of mud flats bordering a saline slough 8 km west of Crawford Lake. At this location, there were an additional 10 scats with some grasshopper remains: one contained a mixture of grasshopper parts and chokecherry pits, five contained some grasshopper remains and four, a trace of grasshoppers. The age of these scats is unknown, but all were intact and lacked mineral crystals on the surface, suggesting that they had been deposited relatively recently.

In summer 2002, grasshoppers were common constituents of Coyote scats found by the third author, DJ, in southern Alberta where grasshopper numbers were similar to those observed in the Saskatoon area.^{2, 10, 11} Scats examined by DJ south and east of Lethbridge contained remains of mainly two-striped grasshoppers, with smaller numbers of Packard's grasshopper. Two scats observed near Aetna, (July 25-29, and August 4), contained mainly two-striped remains, but included small numbers of the clear-winged grasshopper (*Camnula pellucida*) which was common between Cardston and the U.S. border. Several scats observed near Raymond contained only the

two-striped grasshopper. On native and semi-native grassland near the Milk River in southern Alberta, Coyotes apparently utilized some of the other grasshopper species that increased in abundance in 2001-2002.¹⁰ Observations by DJ, who broke open Coyote scats at the Milk River sites and identified the remains in the field, indicated that the diet included the big-headed grasshopper (*Aulocara elliotti*), and white whiskers grasshopper (*Ageneotettix deorum*), with very few two-striped grasshoppers.

These year 2002 observations suggest that Coyotes feed on grasshopper species with medium to large individuals that do not fly readily. The two-striped is a prime example.⁶ The big-headed and white whiskers grasshoppers are smaller than the two-striped but also spend most of their time on the vegetation or ground.⁷ In contrast, the Carolina grasshopper (*Dissosteira carolina*), which flies readily for relatively long distances⁵ and was common in the Milk River region in 2002, was generally not found in Coyote scats that year (DJ, unpublished observation).

This same trend seems to hold true for grasshoppers captured by Coyotes in spring. The red-shanked grasshopper (*Xanthippus corallipes latefasciatus*) was common in Coyote scats collected by DJ and field assistants C. Andrews, D. Drader, D. Watson and S. Van Wilgenburg, during field studies in Alberta in 1992-95 and 2000-2002. It occurs in April as a fifth instar nymph, and is lethargic and easy to capture during morning or evening hours in May and June. This species is the largest grasshopper on the Canadian Prairies (although the Carolina grasshopper has a greater wingspan).⁵ Female red-shanked grasshoppers collected and weighed in 2002 had a mean dry weight of 0.57 g (n=10), and 5th instars, 0.248 g (n=10). Smaller spring species, such as the club-horned grasshopper (*Aeropedellus clavatus*) and

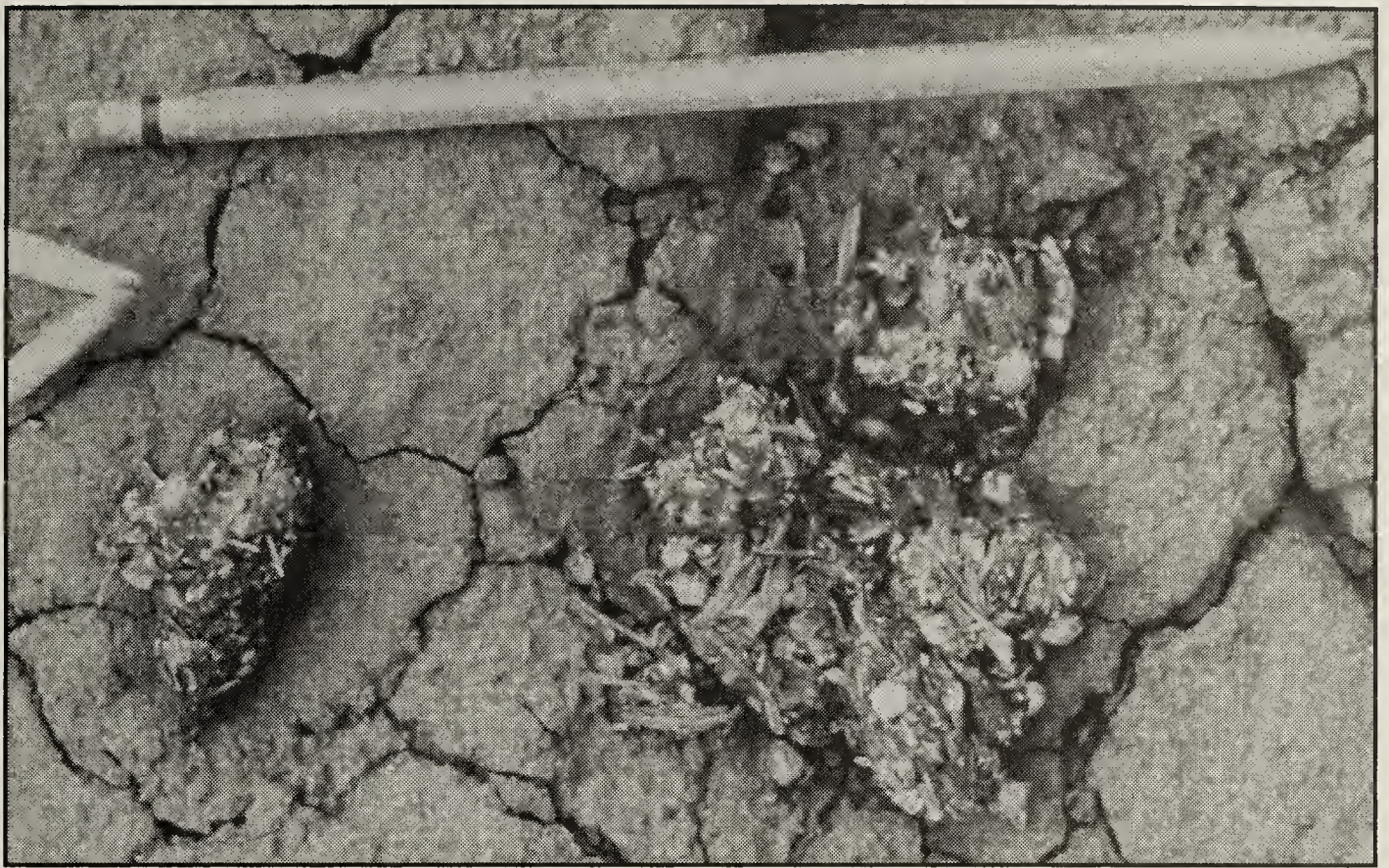


Figure 3. *Coyote scat collected for dissection (pencil = 18.5 cm)* *Anna Leighton*

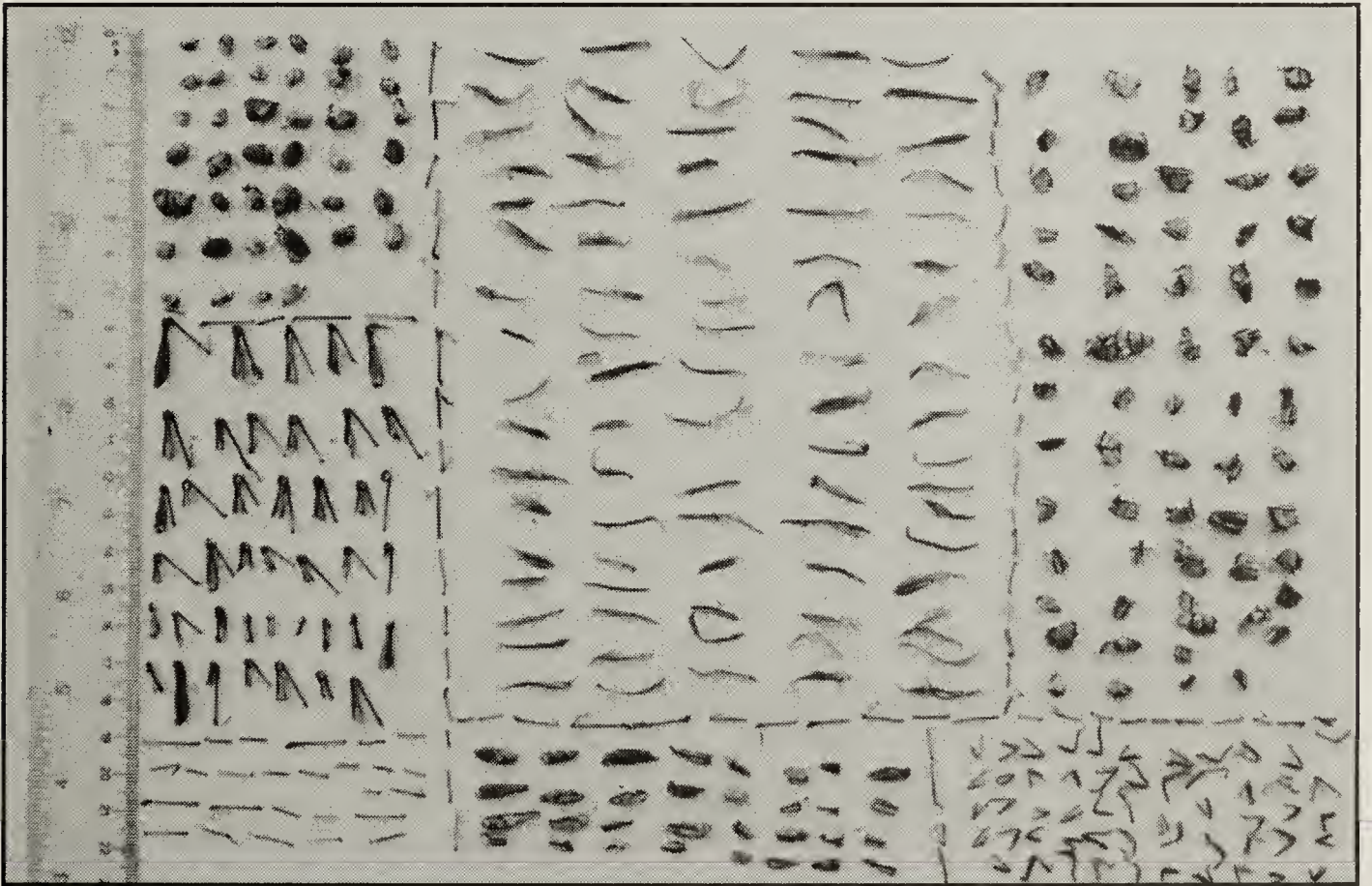


Figure 4. *Grasshopper body parts found in the scat shown in Figure 3.*
Clockwise from top left : heads, wings, body segments, front and middle legs, parts of hind femurs, hind leg tibia segments and femurs with knee (tibio-femoral) joint attached.
Thijs Kuiken

the brown-spotted range grasshopper (*Psoloessa delicatula*), have not been noted as common constituents of scats (DJ, unpublished observation).

Grasshopper density also appears to be an important factor influencing which species coyotes capture. Lesser migratory grasshoppers have been noted by DJ in

Coyote scats collected in the past in late summer in southern Alberta, but not in 2002, when the populations of this species were at very low levels (in most cases less than 1% of the grasshopper community in southern and east-central Alberta, and usually 1 to 10% in southern Saskatchewan, in 2002) (DJ, unpublished data based on August 2002 collections). Although the three-banded grasshopper (*Hadrotettix trifasciatus*)⁵ has the general characteristics of a prey item (a large but relatively slow flier), DJ has rarely found it to occur in Coyote scats in Alberta. The low density of this species may explain this, and if so, it can be expected to increase in frequency, after the unprecedented increases in the densities of this species in southern Saskatchewan and southern Alberta in 2002 (from less than one per hectare, to 5 per square meter, at some sites, DJ unpublished data). The large-headed grasshopper (*Phoetaliotes nebrascensis*) which has a flightless female and occurs later in summer,⁶ appeared in Coyote scats when it was common in the field in 1993 - 1994 at Suffield⁴ and elsewhere (DJ, unpublished data).

Previous studies indicate that insects form a small proportion of the Coyote's diet. For example, Banfield estimated that 1% of the Coyote diet consisted of insects, based on examination of stomach contents.¹ In contrast, Adolph Murie, who collected 5,086 Coyote scats in Yellowstone National Park in 1936-1938, found that 711 contained grasshopper remains (an additional 123 scats contained Mormon crickets, *Anabrus simplex*). He reported that grasshoppers were food items from the time that they became available in summer well into early November, when many fresh droppings had over 90% grasshopper remains and contained 75 to 100 individuals.⁹ Murie watched Coyotes hunting grasshoppers. In fall, when the insects were inactive, Coyotes appeared to locate them by scent. When the insects were more active earlier in the season, Coyotes hunted them with their paws, or by seizing them with their jaws.

What kind of contribution can grasshoppers make to a Coyote's diet? The average weight of a sample of 10 two-striped males collected in Alberta in 2002 was 0.44 g live weight (0.13 g dry weight), and 10 two-striped females weighed an average of 0.97 g live weight (0.34 g dry weight). Assuming a grasshopper sex ratio of 50:50 (based on field collections of large numbers of grasshoppers, as reported in Johnson 1989b), a typical (for 2002) density of 20 two-striped grasshoppers per square metre represents 4.7 g dry weight per square metre, or 47 kg per ha. Since dried grasshopper meal has been determined to be 70% protein and dried *Melanoplus* to be 75.3% crude protein, this represents approximately 33 to 35 kg of protein per hectare of infested roadside, crop or pasture.^{8, 12} Some roadsides, particularly where Smooth Brome (*Bromus inermis*) is grown, may have densities of up to five times this level,¹⁰ presenting a high quality and easily accessible food supply to Coyotes and other predators.

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Coyote

W. Ray Salt

61 (1). March 2003

55

NOTES AND LETTERS

A PLUM OF A NEST SITE FOR WAXWINGS

My Flowering Plum died in the winter of 2001. When I cut it down early in the spring of 2002, there were two branches extending out horizontally to either side almost on the ground, that seemed to retain some life. These I tied upright into a vertical position and attached with nylon pantyhose to a broomstick stake that I had driven into the ground. To my surprise, the two branches began to grow. By late July, the plum had developed into a nice little tree, 6 feet high.

About August 1, I noticed a pair of Cedar Waxwings perched on a wire cage around a delphinium near the little plum tree and realized that they were building a nest in my resurrected Flowering Plum. It seemed late in the summer to begin a nest, until I learned that Cedar Waxwings breed unusually late to coincide with berry ripening.

I cut some string into four-inch strips and placed them on the wire cage. One of the waxwings swooped down, gathered them up and placed them in the nest it was building. I cut several more pieces of string and it came down again and took them all. I thought that the waxwing must have enough, but it sat staring at me on my chair only four feet away as if to say, "Is that all?" It was really quite comical.

I placed a low stool on the patio, so that every few days I could stand on it and look down into the nest. On August 3, a waxwing was sitting. On August 9 and 10, there were three eggs. On August 24, young birds were evident and four days later I could see three feathered heads. A heavy rain storm on September 1 did not disturb them and all three fully-feathered young were still in the

nest on September 5. By September 7, after the expected 12 days of incubation and 16 days in the nest, the young had left the nest. I did not see them again.

- Audrey McKibbin, 10 Mitchell Street, Saskatoon, SK S7H 3G1



Figure 1. Plum tree nest in early winter.

Mary Houston

THREE WAVES OF JUNCOS IN SPRING 2002

More juncos than usual appeared at our feeders on 863 University Drive in the spring of 2002. By banding 79 of them and recapturing 27 on 51 occasions, we determined that they came in three waves.

Although juncos arrive in the Saskatoon area during the last week in March, they customarily do not appear at our feeders until about April 10.¹ In spite of the cold spring in 2002, the first birds banded were only one to four days late. The first junco appeared in our yard on April 11; one was banded on April 12, and 41 more were banded in the next seven days. Nine banded birds were recaptured on 16 occasions. These juncos did not tarry long; all had left our yard by April 19.

After a gap of four days, a small wave came through from April 24 to 27. Nine were banded; seven of these were recaptured a total of nine times before the last of this group departed on April 30.

No new birds were caught until the third wave appeared on April 28 when nine birds were banded. Nineteen more were banded by May 8. Eleven were recaptured 26 times (including one bird recaptured 14 times!). All banded birds had left us by May 9.

Might the three waves have had different origins?

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- *Mary I. Houston*, 863 University Drive, Saskatoon SK S7N 0J8

SNOWY OWL AND JACK RABBITS GALORE

At approximately 3:00 P.M. on February 22, 2003, I was trying to catch a female Snowy Owl for banding. The day was slightly overcast, but still bright with fresh snow. The temperature was -25 C with a slight breeze. I was 4 miles north of Elrose, parked just off the Bickleigh Road on the crest of a hill overlooking a 40 acre pasture to the west and north of the road. The owl was sitting on the west fence approximately 250 yds north of the road and about 400 yds from me. The net with the tethered pigeon was sitting along the road on the far side of the pasture, about 500 yds away.

There is a corral attached to the pasture on the east side, the side closest to me. The only relief, other than barbed wire fences and corrals, is a tiny breached earthen dam with a short row of Caraganas along it, about 75 m north of my position.

As I waited to see if the owl would go for the pigeon, I noticed a pair of jack rabbits moving in the Caraganas. Then I saw three more jack rabbits move from behind the snow banks at the base of the Caraganas. I haven't seen more than four jack rabbits at any one time since the 1970s, so I started watching the rabbits. Another six rabbits came from beyond the Caraganas. Eleven jack rabbits. I kept checking the owl, which also was watching the new activity, and I also started looking carefully at the surrounding area. I could see at least four more rabbits crouching up against corral posts in the snow banks in the wooden corrals. Two rabbits left, hopping north along another fence line until they disappeared over a hill, but the rest stayed close to the corrals and Caraganas for cover. When I tried to walk a little closer for a photograph and was about halfway to the Caraganas, a covey of 18 Grey Partridge exploded from the tree row and the rabbits

scattered. Altogether, including the two rabbits that had gone north, I counted thirty jack rabbits in an area the size of a tennis court!

But it doesn't end there. The rabbits scattered, but they didn't want to leave the shelter of the corrals, the tree row and the fence lines. As I watched, a group of twelve rabbits started making their way along the fence line, first south and then west to the southwest corner of the pasture. They were now straight south of the owl. These twelve rabbits stayed in the corner, never more than a few yards from the protection of the fence. As I watched, the owl suddenly flew down the fence line, landing on the top brace of the corner posts, directly above the twelve rabbits. The rabbits were startled, and bolted, but almost immediately came back to the safety of the fence. Incredibly, the rabbits actually started moving towards the owl. A rabbit would take a quick step, pause, take another quick step, pause, gradually moving until the owl had to crane its head to look down below its feet at them. If the owl shifted its feet, the rabbits would dart away, but immediately they came back to the fence. This went on for ten minutes. Then, as four or five rabbits milled around at its feet, the owl dropped in amongst them.

Although I've seen Snowy Owls feeding on jack rabbits, I've never seen an owl attack a rabbit. And I still haven't. The owl dropped to the ground, the rabbits moved away briefly, but then they came back again. And, there they sat, the owl among the rabbits. The rabbits were as tall as the owl and likely twice as heavy, but I still thought something would happen. Nothing did. The rabbits stayed a body length away from the owl and never turned their backs to it, but they didn't back away, either. Finally, the owl flew back up onto the other cross brace and turned its back on the rabbits.

I would have waited to see if anything else would happen, but it was still three hours until dark and I suspected that the owl might wait until then before doing anything. And I wanted to keep looking for more cooperative owls (I did see 19 Snowy Owls that day, catching none). I got about halfway to the owl in my vehicle before it flew. But it didn't go far. It flew over the pasture and landed east of the Caraganas where I suspect it waited for dark, and perhaps a rabbit meal.

- Dan Zazelenchuk, Box 39, Kyle, SK S0L 1T0 Email: danzaz@sk.sympatico.ca



Jack rabbit in snow along a fence line

R. E. Gehlert

BIRDS OF THE SASKATOON AREA

Edited by ANNA L. LEIGHTON, JIM HAY, C. STUART HOUSTON, J. FRANK ROY, and STAN SHADICK. 2002. No. 5, Manley Callin Series, Special Publication No. 23, Saskatchewan Natural History Society (Nature Saskatchewan). 345 pp. 29 colour photos, 39 b/w sketches. 14 maps. \$39.00.

I never cease to be impressed by the accomplishments of Saskatchewan naturalists, and this latest production is no exception. Published by Nature Saskatchewan with support from the Saskatoon Nature Society, this substantial volume – five years in the making – is yet another exemplary and scholarly contribution to knowledge of bird distribution, occurrence and behavior in Saskatchewan. Thus, the legacy initiated in Yorkton by Isabel Priestly [with encouragement from Winnipeg's A.G. Lawrence, I might add!] is continued.

Five editors sounds like a committee, and we all know how difficult it can be to get anything done by a committee. Still, the success of this group may be judged by the clarity, detail and obvious enjoyment of birding that typifies this entire publication. The editors must have worked like beavers to deliver a production of this level. This competent team has dealt favorably with contributions, that is, notes, records and observations, from over a hundred Saskatoon area birders along with an incredible “60,000 field notes, collected between 1965 and 1988” – in large measure, it should be added, driven by the determination and persuasion of the late Bernie Gollop. What an accomplishment!

It is the focus upon dependable records of birds from a select and restricted area of the province that typifies publications in this series, beginning with Houston and Street's 1959 *Carlton to Cumberland* (Spec. Publ. No. 2) and right up to Roy's 1996

Birds of the Elbow (Spec. Publ. No. 21). Thus, Manley Callin's inspired legacy – himself the author of Special Publication No. 13, *Birds of the Qu'Appelle, 1857-1979* – continues to bear fruit, as it should.

Birds of the Saskatoon Area is in a large format (ca. 9" x 11") and spiral-bound. It contains a selection of detailed maps of the whole region and of specific portions. Maps on the inside of the end-covers are especially instructive. These end-covers, by the way, larger than the pages by several inches, are designed to fold in, presumably to protect the pages. The back cover has a flap that folds over the front edge, an unusual feature that I found somewhat cumbersome. The large format suits the color photos, most taken by George Tosh, and all either half-page or full page (three). These glossy summer and fall landscape photos are glorious proof that the Saskatoon area is anything but flat, barren prairie. This is a stunning array that will startle and impress readers from outside this region.

On top of all the other good features of this book, there appears a nice literary touch, a short but pertinent foreword by Farley Mowat who, it turns out, birded in the Saskatoon area as a teen-ager. This choice item is followed by an appropriate extract from *Born Naked*, describing Mowat's recollections of camping out in May 1937 beside a bird-rich slough.

This is far more than a record of bird distribution and occurrence, the kind of information so useful to, say, a

zoogeographer. There are good tips on bird identification, notes on habitat selection and requirements, breeding behavior and nesting chronology, food habits and species' interactions. There is detailed information on numbers of birds banded in the Saskatoon area (73, 610 of 171 species!) and a summary of the recovery results. In short, this book is a kind of encyclopedia of birds, with details on nest box requirements, results of breeding bird surveys, research projects, an extensive bibliography, an index to both English and French names of bird species, a list of common and scientific names of plants of the area, and a glossary. Birders new to the area will appreciate the wonderfully detailed directions ("watch for potholes") for visiting the various birding hotspots within the Saskatoon area.

The handsome cover of this new book is adorned with a color photo by Gerard W. Beyersbergen of one of my favorite birds, a nearly life-size male Yellow-headed Blackbird against a blue sky. This lively cover illustration is followed inside by sketches of 39 birds by six Saskatoon Nature Society members, each of whom has contributed from 2 to 16 artworks. These drawings vary considerably in execution, from realistic to impressionistic, from forceful characterizations to the delightfully serene, from moody (the raven) to rather grim (the magpie). The latter, a malevolent-looking individual, to my eye, may reflect ranchers' and some birders' prevailing view of this species as a marauder – such bias! Still, one can only applaud the local committee for supporting this freedom of expression.

Local birders not only contributed their records, but the 340 species accounts were, in fact, researched and written by some 77 different persons. Thus, there is a degree of variation in the style and presentation of accounts. Still, the editorial committee clearly had some role in this, for, as far as I could tell after browsing through the book for more than a week, the accounts are all

soundly based and to the point. Well, all right, some accounts are more serious than others. Best of all, I think, is that this publication proves that it is possible to contribute to science, to the knowledge of bird distribution and occurrence, without diminishing our appreciation of the beauty and wonder of birds.

In conclusion, I like this book – which is appropriately dedicated to Bernie Gollop – and I think that all who acquire it will also like it. Most noteworthy, may I add, is the statement in the preface that "this book is really just another step toward understanding the birds of the Saskatoon area."

- Reviewed by Robert W. Nero,
546 Coventry Road, Winnipeg, MB R3R 1B6



ENCOUNTER

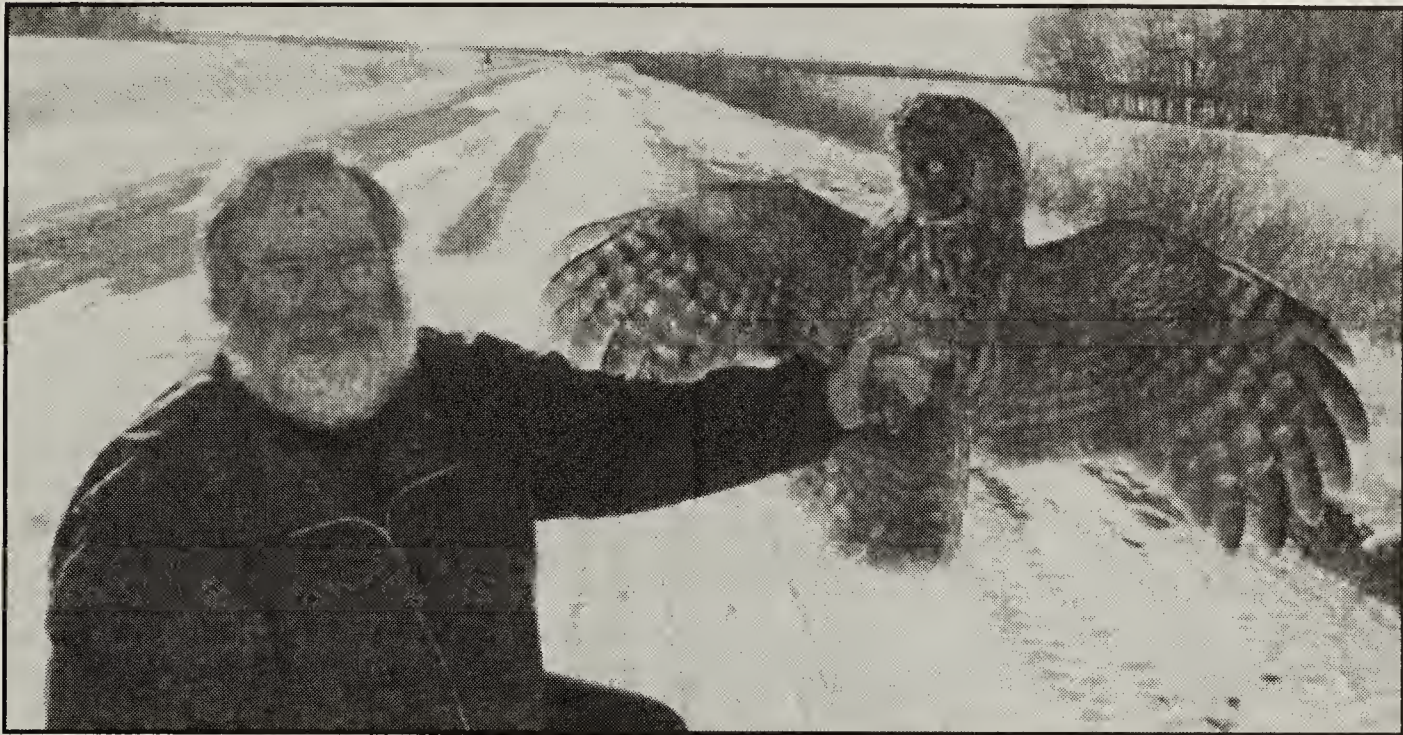
Dusk. April night descending.
A cold mist graying things.
Distant bushes blurred, obscured.
Last year's grasses sodden at my feet.
Somewhere, a faint hallooing.
A wild crying, maybe. Voices.
Silence again.
I, huddled, still, peering into dimness.
Nearer clamour then.
A muted *honka-honk*.
A lone goose in cleaving flight
Emerges darkly from the mist
(Had it heard my far-off steps
And come to reconnoitre?),
Swings wide in parabolic arc before me –
Just one acknowledging brief *honk* –
And surges swiftly back
Through veils of space and mystery
To some safe rendezvous
With others of its kind.

- Victor C. Friesen

IN MEMORIAM

WAYNE C. HARRIS, 1951 - 2002

C. STUART HOUSTON, 863 University Drive, Saskatoon SK S7N 0J8



Wayne was Saskatchewan's "all-round naturalist" in every sense of that phrase, with remarkable skills in identifying birds, mammals, vascular plants, mosses, lichens, butterflies and other insects. He was the foremost Saskatchewan authority on rare and endangered bird species, especially the Piping Plover, Loggerhead Shrike, Greater Prairie-chicken, Sage Grouse, and Burrowing Owl. He could also identify all northern warbler songs and dialects. Few in Saskatchewan came close to sharing his wealth of knowledge across such a wide variety of topics.

Born on November 10, 1951, Wayne grew up on the family farm near Raymore, where he went to school, and then took an advanced degree in biology at the University of Saskatchewan, graduating in 1975. While still a student, Wayne began searching for owl nests in spring so I could band the nestlings when I visited the Harris farm each May. As a university student he assisted me on extensive raptor banding trips and

helped band colonial birds at Redberry Lake. Wayne obtained a banding sub-permit in 1971 and a full permit in 1985. He banded thousands of birds in his life time, including 1800 Loggerhead Shrikes.

Wayne started work for the Forestry Branch, Department of Northern Saskatchewan in 1975 and for a year worked under Alf Kabzems. Alf told me how Wayne often worked from dawn to dark, seven days a week, contrary to department protocol, and of the high quality of the work he produced. No wonder Alf thought the world of Wayne.

Through his private company, Prairie Environmental Services which began operating in March 1981, Wayne undertook studies of endangered species as well as other environmental consulting work varying from resource inventories, management planning, forest productivity and regeneration, effects of chemical use on the environment, and differences between

bird communities on conventional and organic farms. He also worked for various government departments over the years and in 1994 he took the job he had at the time of his death as Regional Ecologist for Saskatchewan Environment's grassland ecoregion based in Swift Current.

Wayne wrote *Guide to Forest Understory Vegetation* published in 1980 and was first author of *Ecological Regions of Saskatchewan* published in 1983. He wrote fifteen Prairie Provinces regional accounts for American Birds. He presented papers at conferences, such as the Endangered Species Conferences held every three years, and the two Northern Forest Owl conferences.

Wayne undertook Breeding Bird Surveys (BBS) from 1971 through 1980; one of the reasons he discontinued these was difficulty hearing higher pitches. He was observer in at least 10 surveys - the Watson BBS for 6 years, the Leroy BBS for three years and the Hudson Bay route for 1 year - and participated in many others. Each survey begins half an hour before dawn and this sometimes means hours of driving in pitch-black darkness to get there, sometimes in vain when the wind is too high to allow the count to proceed. In 1975 he was able to complete all three of the above counts.

Wayne was an active member of the Burrowing Owl Recovery Team from its inception in the late 1980s, and was well-known and respected among the landowner community. In recent years, Wayne was instrumental in getting nocturnal owl surveys underway, and helped draw up guidelines for them.

Perhaps the true measure of the indefatigability of this remarkable man is demonstrated by his contribution to Christmas Bird Counts. Guy Wapple has calculated that Wayne participated in 294 CBCs over 36 years, the highest number in Canada. His first CBC was at Raymore on

28 December 1966. In 2001 he did 13 counts; in three other years he did 12 counts, and in five others, 11 counts. Over the years, 36 different localities were involved, but Squaw Rapids, Gardiner Dam, Govenlock and Cypress Hills were regulars. The minimum distance between Cypress Hills in the southwest to his northernmost regular count at Squaw Rapids is 813 km and, not counting the distance travelled by car and on foot during each count, this involved a lot of travelling, which was followed by driving on to the next day's count, sometimes in extreme weather.

When Mary Houston edited the Saskatchewan CBCs, she commended Wayne for his "boundless enthusiasm." Carol Bjorklund and Martin Bailey point out that in 1988, Wayne identified all five falcons (gyr, peregrine, prairie, merlin, kestrel) during the Grasslands National Park CBC. His skills and wide travels are evident in his contributions to Al Smith's *Atlas of Saskatchewan Birds*, published in 1996; Wayne contributed far more sightings and breeding records than any other individual, about 20% of the total.

Wayne served as vice-president of the Saskatchewan Natural History Society (Nature Saskatchewan) from 1978 to 1981, co-editor of the *Blue Jay* with Sheila Lamont in 1981, and treasurer and part-time office manager from 1985 to 1989. From 1989 on Wayne contributed significantly to Nature Saskatchewan by publicizing, organizing and editing the Saskatchewan provincial Christmas Bird and Mammal Counts for *Blue Jay*. He was also an active participant in the Southwest Naturalists, the local society of Nature Saskatchewan in Swift Current.

Wayne died tragically on October 7, 2002. He was a principled, dedicated, scrupulously honest, and very independent man who called a spade a spade, whatever the consequences. He was generous in helping others and will be greatly missed – in part because of his unique, offbeat sense

of humor. No one can hope to replace him, but he will live on in the hearts of all that knew him.

Acknowledgements

I acknowledge the assistance of Martin Bailey, Carol Bjorklund, Geoff Holroyd, Ron Jensen, Alf Kabzems, Louise Laurin, Sheila Lamont, Bob MacFarlane, Bev McBride, Lorne Scott, and Guy Wapple in

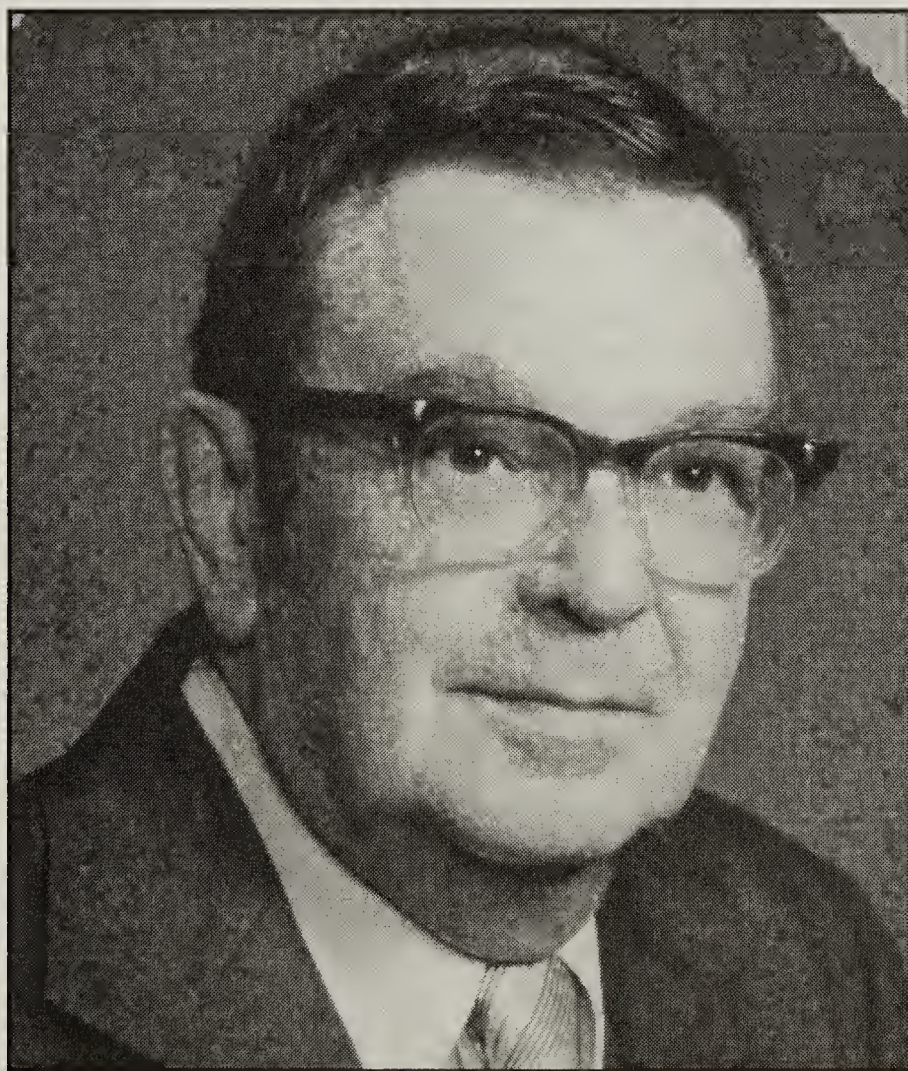
preparing this memorial. Heather Felskie kindly provided the photograph of Wayne.

Donations in Wayne's memory, payable to the Nature Conservancy of Canada, Suite 301, 1777 Victoria Avenue, Regina, SK, S4P 4K5, should mention in the accompanying letter or in the memo section at the bottom of the cheque, that they are for Wayne Harris' Prairie Conservation Fund.



JIM ARMSTRONG WEDGWOOD, 1920-2003

J. FRANK ROY, 650 Costigan Way, Saskatoon, SK S7J 3R2



high school in Regina before moving to Saskatoon where, in 1941, he graduated with a bachelor of science degree in mechanical engineering. Except during the war years (1941-45) when he served in the Canadian navy, Jim spent his entire life in Saskatchewan.

Jim Wedgwood began taking a serious interest in birds in the 1960s, an interest which deepened with every passing year. After honing his identification skills, he was ready to share his enthusiasm and expertise with the hundreds of people who accompanied him on outings, bird counts and studies of particular species.

On January 7, 2003, Saskatchewan lost another of its native sons and one of its most ardent birders. Born in Gull Lake, Jim Wedgwood attended elementary and

For over thirty years, he organized annual field trips to Sharp-tailed Grouse dancing grounds. Piling into their cars as early as 4:00 AM, as many as 75 people would leave

the city well before dawn, following Jim as he led them to a community pasture. Before 5:00 AM, all would be settled quietly in place around a dancing ground before the birds arrived to dance. For over 20 years he also conducted Breeding Bird Surveys for Canadian Wildlife Service, and for 30 years organized or participated in Saskatoon Area Christmas, May and Fall bird counts.

By the early 1970s, Jim had begun special studies of several local species. Between 1970 and 1973, assisted by his devoted wife, Shirley, he located and mapped an amazing 141 Sharp-tailed Grouse leks (dancing grounds) in the Saskatoon birding area. They repeated the survey between 1988 and 1990. In 1971, Jim and others whom he recruited surveyed the entire city of Saskatoon to determine the number of Common Nighthawks within city limits, a study that he repeated in 1990. In 1975, he and Bernie Gollop conducted a survey of Burrowing Owls in south-central Saskatchewan, part of a Canadian Wildlife Service attempt to locate the remaining nest sites of this rapidly declining prairie species. The results were published in a major article in the March 1976 issue of *Blue Jay* (pp. 26-44). The gravity of the continuing Burrowing Owl decline was confirmed in his 1992 survey of the same area. Between 1989 and 1993, in conjunction with Canadian Wildlife Service, he organized bird surveys of the Lake Lenore, Scentgrass Lake, Redberry Lake and Sutherland Migratory Bird Sanctuaries and of the Tway National Wildlife Area.

During his busy lifetime, Jim contributed over 20 articles to *Blue Jay*, and between 1989 and 2002, more than 60 articles to Nature Notes, a weekly feature in the *Saskatoon StarPhoenix* and, later, the *Saskatoon Sun*. He lived to see his many well written species accounts in *Birds of the Saskatoon Area*, published in December 2002, just three weeks prior to his death.

Despite Jim's heavy workload as Superintendent of Buildings and Grounds,

and Director of Planning for the University of Saskatchewan, he found time to be President of the Saskatoon Natural History Society in 1968 and 1969, President of the Saskatchewan Natural History Society in 1972 and 1973, and a director of the Canadian Nature Federation in 1973. After his retirement in 1984, Jim founded the "Golden Eagles," a unique group of retired persons within the Saskatoon Nature Society committed to weekly local outings as well as longer natural history excursions throughout the province and beyond. With a regular membership of about 40, the Golden Eagles, while enjoying the company of others who love the outdoors, have volunteered actively in a wide variety of local conservation and educational projects.

Jim's leadership, his substantial contribution to ornithology and his commitment to the preservation of the natural world earned him the Cliff Shaw Award from the Saskatchewan Natural History Society in 1970 and the Meewasin Conservation Award in 1994. For nearly forty years we in the Saskatoon and Saskatchewan nature societies have been the beneficiaries of his dedication and knowledge. He has left us a legacy of caring and sharing.



LATE WINTER

Clumps of
crystal-white April snow
lingering
on May-green spruce boughs
provide
cool treats
for blue-coated
red-breasted nuthatches
dining with needle-sharp
black beaks.

- Victor C. Friesen

MYSTERY PHOTO

MARCH 2003 MYSTERY PHOTO



Who would fill such tiny nests as these? The spruce needles lying on the ground will give you an idea of the scale. Each 'nest' is about 1 cm in diameter. The 'nests' were photographed on the ground beneath an apple tree 20 km east of Saskatoon in the fall of 2002.

ANSWER TO DECEMBER 2002 MYSTERY PHOTO

The creature eyeing the grassland is a toad. There are several kinds of toad in the southwest part of SK where this photo was taken. The horizontal pupil rules out the spadefoot toads which have a distinctive vertical pupil. This eye could belong to either the Great Plains Toad (*Bufo cognatus*), or the Canadian Toad (*Bufo hemiophrys*) though the larger picture shown below suggests that it is a Great Plains Toad based on the shape of the head between the eyes.

Several readers came as close as possible to identifying the toad's eye. Thank you for your comments. The editors would also like to thank Keith Roney and Andy Didiuk for their assistance in identifying the toad to species, and Joanne Marchand for providing the photograph.

The Latin name *Bufo* was given to toads by Linnaeus in mockery of his equally famous contemporary, French naturalist George-Louis LeClerc, the Count of Buffon, who he intensely disliked.



CORRIGENDUM

WHERE HAVE ALL OUR ASTERS GONE?

By Vernon L. Harms, September 2002.

Under 'NEW LATIN NAME' in the table included with this article, *Symphyotrichum* was misspelled as *Symphotrichum*. In all 11 instances where this name appears it should be spelled *Symphyotrichum*. The name is correctly spelled elsewhere in the article.



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